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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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A PROPOSED SHIP RAILWAY.

Initial steps are being taken in Toronto for the construction of a ship railway by which boats can be hauled overland from the Georgian Bay to Lake Ontario, between Collingwood and Toronto, the scheme supplanting that for a canal to shorten the water route from Duluth to the sea.

The Ontario Ship Railway Co., which proposes to build the line, has been empowered by the railway committee of the Ontario legislature, to go ahead, providing it will complete its road within three years and expend \$50,000 the first year. The company has acquiesced in the conditions, and it claims that operations will be started at once.

The railroad will be patterned after the model suggested by Capt. Eads for the proposed ship railway to run across the isthmus of Panama between the Atlantic and Pacific oceans. The ships will be floated on a huge cradled flat car, and carried across the country at the ordinary speed of a freight train.

The distance to be traveled between Collingwood and Toronto is 95 miles.

There are some railway experts who declare that the proposed overland transportation of the ships is feasible, and they look for a successful issue of the proposition. They point to the success of a somewhat similar road at the "Soo" before the canal was built there. Boats were then carried on rails from the St. Mary's river to Lake Superior, but they were much smaller boats than those now in use, and in spite of the fact the transfer was effected with difficulty.

A PHOSPHORESCENT OCEAN.

A milky opalescence, permeating the entire sea for immense distances bounded only by the horizon, is a somewhat rare phenomenon. It appears quite suddenly, lasts perhaps for several hours, or passes away as rapidly as it came; and this without apparent cause. At midnight we had the singular whiteness enveloping the sea, while the more brilliant kinds of phosphorescence shone in the midst of flashing green, yellow, or bluish lights, as the case might be—a gorgeous display. During these hours my surface trawl-net drifted astern of the ship. The water was alive with countless myriads of little gelatinous sacs measuring one-sixth of an inch in length, delicate tunicate organisms which required the aid of a microscope to reveal their perfect structure, says the Cornhill Magazine. A few specimens placed in an empty meat tin in a darkened cabin could be seen, indeed, with the naked eye, careering madly around in the salt water, each one glowing with that peculiar opalescent light which saturated the entire sea for so many miles. It was a small species of salpa, nearly related to a much larger kind on the side of which the late Prof. Moseley wrote his name with his finger, the signature being visible on the dead body throughout the night, glowing with the brightest phosphorescent light.

TO COMPENSATE LIGHT-HOUSE KEEPERS.

In the House of Representatives, February 11, Mr. Maynard introduced the following bill, which was referred to the Committee on Interstate and Foreign Commerce and ordered to be printed.

A bill to fix the compensation of light-house keepers and to provide for their retirement on half pay.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the compensation received by the richest and keepers shall be fifty dollars per month and assistant keepers, forty dollars per month.

Sec. 2. That when a light-house keeper or assistant light-house keeper who has served ten years continuously and shall become so disabled in the discharge of his duties as to be unfit for service he shall be retired on half pay.

Sec. 3. That the petition for retirement under this Act shall be filed with the Secretary of the Treasury, who shall have full authority to pass upon same.

THE SHIP SUBSIDY BILL.

The editor of the New York Maritime Register, who has just returned from Washington, where he made a thorough canvass in regard to the chances of an early passage of the ship subsidy bill by Congress, has come to the conclusion that the chances for such passage have never been so bright as at the present moment. There is no doubt that the Senate will pass the bill and the few votes that seem to be still lacking to get the bill through the House, are expected to be furnished through the instrumentality of Mr. Nixon, who, it is said, has himself no doubt that, owing to his leadership of Tammany Hall, he will be able to induce the Democratic members of Congress from New York and some of their friends to vote for the bill. We make this statement on the authority of such Senators and members of Congress who are in a position to have the most authentic and reliable information. We hope that their expectations will be realized and that Mr. Nixon, through his affiliation with Tammany Hall, will be able to exert such influence; his willingness to do his utmost in this direction cannot be doubted, as his own interests dictate this course.—New York Maritime Register.

VESSEL TAX IN MINNESOTA.

The tax laws of Minnesota as far as vessel property is concerned will remain as they have been since the legislature passed a measure in 1895 which was so favorable to lake property that Duluth became the leading port on the Great Lakes as regards the amount of tonnage registered there.

It has been a hard fight, and during the present winter there has been a strong movement in some directions to wipe this law favorable to vessel property off the statute books and increase the taxable value of vessels, putting them on the same basis as other personal property.

The friends of the vesselmen and those who think that Duluth should maintain her present position as the hailing port of a larger amount of tonnages than any other port on the lakes, have finally won out, and by an amendment which went through, without a dissenting vote, it was decided to strike out of the new code that part relating to the taxing of vessels as personal property.

The vessel interests which flocked to Duluth under the tax conditions since 1895 will now stay there and reconsider the step they took when matters looked as though the legislature would change the tax code and make it operate against the floating property.

Many of the large owners who registered their boats at Duluth said that should the law be changed and put their boats under the personal property clause, they would make another shift and take them to West Superior or register the boats at lake ports or states where tax conditions were more favorable to them.

Detroit has lost a good deal of her prestige as the home city of lake boats when her tax laws became such that owners either sold their boats or shifted their hailing ports, and Minnesota does not seem inclined to establish similar conditions in that state and have the tax laws operate against Duluth, as the home port of more vessels of large tonnage than any port on the lakes, and for that matter more tonnage is registered at the Zenith City than at many of the largest ports in the world.

LAKE SUPERIOR IRON ORE OUTPUT.

Capt. Joseph Sellwood, Duluth, who has acquired considerable distinction by very accurately predicting the season's movement of iron ore for several years past, estimates there will be forwarded from the Lake Superior region the present year about 23,000,000 gross tons. This will be an increase of 2,500,000 tons over the year of 1901.

Capt. Sellwood's estimate is more conservative than that of some others who watch the movement of iron ore, some of them figuring that the total will be nearer 25,000,000, but iron ore and vesselmen at the head of the lakes will be likely to support his views of the outlook. An increase of 2,500,000 tons could be cared for without special effort on the part of the producers and the transportation lines, but an increase approximating 5,000,000, which is looked for by some, would be quite another thing. It is doubtful if it could be handled at the receiving ports, though the mines and boats might be able to deliver it.

Capt. Sellwood's estimate, made last April, of the probable shipments from the Lake Superior region for 1901 was 20,500,000 tons and the actual was 20,589,237. Considering the magnitude of the movement, this is considered a remarkably close estimate. He also said that Minnesota would ship more than Michigan and Wisconsin combined, and this proved true; for Minnesota's aggregate was 10,790,953, and the total for Michigan and Wisconsin was 9,798,284 tons.

Minnesota furnished 52.5 per cent. of all the ore forwarded from the Lake Superior region, the Messaba furnishing 43.8 and the Vermillion 8.7 respectively. Minnesota occupies a position of great prominence in the iron ore world, and the prospects are that this state will continue to increase its per cent. of the total for the region are bright. The Menominee range furnished 17.5, the Marquette range 15.8 and the Gogebic range 14.2 per cent. of the ore furnished from the region.

LAKE AND COAST USAGES.

The coasting steamer Hugoma, built at the Wyandotte yards of the Detroit Ship Building Co., and taken to the coast about the middle of November, has been a success in every way, and her owner, Mr. T. H. Morley, says that in his opinion and in that of some of the best experts on the coast he has as good a boat, if not a better one, than the majority of tramp coasters.

The management of the steamer has had good luck in chartering the vessel and she is now under contract for a year. At the present the Hugoma is in the trade, carrying sugar and general merchandise from New Orleans to Porto Rico.

Things on the ocean, according to Mr. Morley, are radically different from the methods of steamboating on the Great Lakes. This is particularly true in the case of loading charges. While the rates on the ocean are higher in round sums, Mr. Morley says that in order to have an ocean boat break even on earnings in proportion with lake boats, the rate must be about double. For instance, he says that ocean freights at \$1 a ton would be about equal to 50 cents on the lakes.

Most of the loading and unloading, in the trade in which the Hugoma is engaged, is done with lighters, and all the freight is handled by the crew of the boat, it being hoisted out of the hold and swung by means of booms over to lighters and thence to the docks ashore. The Hugoma has been particularly fortunate, but Mr. Morley says that the big difficulty at New Orleans and other southern ports is to get the freight to the boats, there being but few freight warehouses on the docks and only large established lines keeping up these centers, and tramps are compelled to tie up wherever they can and have their cargoes carted or brought out in lighters.

Another interesting feature which the Hugoma has encountered is that the shipper sends his freight handlers with the boats, often sending as many as thirty or forty on the trip with a boat and then dropping them at the last port of discharge.

The "Soo" line from which the steamer John Pidgeon has been retired through sale, will the coming season consist of the steel steamers St. Paul, Minneapolis, Huron and Castle Rhodes.



DULUTH-SUPERIOR.

Special Correspondence to The Marine Record:

Eight million bushels of Canadian wheat have been received at the head of the lakes in bond, of the crop of 1901. This is by far the greatest amount of wheat ever received here in one year from across the international border and there is a prospect that considerable more will come. Reports of late as to the probable quantity have been much exaggerated. It is possible that 2,000,000 bushels more may be received in bond, but not to exceed that.

Inquiry has failed to disclose the names of the boats which have been chartered by F. H. Clergue for the season. It seems that he has been making overtures to charter the boats for a lump sum for the season, with an option on the property, which he may take advantage of at any time he wishes to buy them outright. The latter clause has prevented a deal with a number of firms. It seems that the statement that the boats are to run between Michipicoten and the "Soo" is a mistake. The boats are 5,000-ton ships and are intended to run between Michipicoten and Ashtabula. This is in keeping with Clergue's desire to import more ore this year than he did a year ago. It is probable that the boats have either been obtained in Canada or some of the upper lake ports.

The reason no agreement was made at the Ashland meeting of lumber men on February 18 is that most of the men—in fact about 85 per cent. of them—are in the woods at this season of the year, and that they could not spare the time to attend the conferences and pay the expenses of the trip back into the woods again. As far as can be learned now, the lumber loaders will demand but fifty cents an hour, the same as they were paid last year, and to this the carriers have already said they are willing to meet the scale, considering it to be fair to all concerned. The present plan is to hold a joint meeting between the longshoremen and the lumber carriers at Sault Ste. Marie, some time in April and there fix the season scale and other matters which of necessity will come up between the carriers and the members of the various locals.

The annual meeting of the owners of lumber tonnage with representatives of the Longshoremen's Association was held at Ashland on Thursday last, but the rate to be paid for loading lumber at Lake Superior ports was not decided upon, this being deferred until the first week in March. The owners of lumber carriers submitted several propositions, but owing to the absence of longshoremen's delegates from West Superior they were not considered, although the impression was given out that the longshoremen will accept the rate of 50 cents an hour for loading lumber. Among the owners present, representatives of the loading committee of the Lumber Carriers Association, were: Edward Hines of Chicago, who was elected chairman; Alex Sinclair and C. H. Weeks of Duluth, C. H. Prescott and Mr. Fisher of Cleveland, Thomas Madden and C. W. Blodgett of Bay City and W. T. Martin of Cheboygan. They all returned to their homes after the meeting.

It is reported in transportation circles that Capt. A. B. Wolvin will this season withdraw entirely from the Western Transit Co. It is understood that he has been anxious to be relieved of his duties with that company ever since he was made vice president and general manager of the Pittsburgh Steamship Co., about a year ago. For a long time he has been general northwestern agent for the Transit line, but last season, with his duties as manager of the steel corporation fleet, he did not have the time to devote to the transit company that he had in the past. G. L. Douglas occupied the position of general northwestern agent last season and Capt. Wolvin acted more in an advisory capacity than anything else. Mr. Douglas was very successful in a very trying and responsible position, and it is now said that he will be formally appointed to the position this year, and that Capt. Wolvin will withdraw entirely. Mr. Douglas, however, declined to discuss the matter.

Capt. James Lowe Pilling, Master Mariner, of Port Huron, Mich., has issued the second edition of his attractive book of verse. "The Keel of the Kearsage; the Old and the New." There are some thirty odd poems in the present volume, some of which are new. They are on miscellaneous subjects, but the majority have the sea as their theme, and all these breathe the spirit of salt water and have a freshness and a finish that must class them among the best of their kind written in recent years. The little book is handsomely printed and bound, and is dedicated "to the white caps that dot the blue, with gratitude to Rear-Admiral Philip Hichborn, U. S. N." It deserves wide circulation.

DETROIT.

Special Correspondence to The Marine Record.

Gilchrist and Fletcher have sold the schooner J. B. Kitchen, to the Richardson Lumber Co. The schooner will be used in carrying lumber. Her capacity is about 375,000 feet.

Inquiries regarding new tonnage are being regularly received by the American Ship Building Co., but as the several departments of this extensive industry have orders booked well ahead, no terms can be placed for future deliveries. In hull construction, steamers of about 5,000 tons, or not to exceed that, seem to be given the preference by intending owners.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau, for the week ending Tuesday, February 25: Prevailing wind directions for the week, northeast; highest velocity, 26 miles from the northeast on the 25th. Mean temperature for the week, 31 degrees; highest temperature, 8 degrees on the 24th; lowest, 4 degrees on the 10th.

The tug John Owen is to be fitted out as a first class wrecker, the work to that end having already commenced. Workmen are now engaged in making the necessary changes in the interior, and the outside work will commence as soon as the weather softens. The boat will be equipped with spars, hoisting engines, and everything that is necessary to tackle any kind of a wreck.

Announcement is made that Charles B. Warren, until recently the second member of the firm of Dickenson, Warren & Warren, having withdrawn from that firm, has entered into a co-partnership with John C. Shaw, Byron S. Waite, William B. Cady and Herbert K. Oakes of the firm of Shaw, Waite, Cady & Oakes. The firm name has been shortened, for convenience, and a general law business will be done under the name of Shaw, Warren & Cady. Mr. Waite will assume the position of counsel to the firm, and Mr. Oakes will give special attention to Admiralty practice.

Henry C. Barter, secretary and treasurer of the International Longshoremen's Association, has so far recovered from his illness that he is now able to spend a few hours each day at his office in the Colonial building, Barclay place and John R. street. He has been sick for about a month with a complication of diseases, and upon the return of President Keefe, who is now on a tour to San Francisco and then to Gulf ports, Barter will take a month's vacation at Memphis for his health. He has not had a vacation in fifteen years, and thinks a rest will do him good.

An interesting question in point of law, and one in which all vessel owners will be interested in the outcome, is involved in the present suit against the White Star line and Mrs. Jane Smith, owner of the Algonac docks at which the up river boats of the White Star line land during the summer excursion season. In September, 1897, Mrs. Nellie Young fell through a hole in the Algonac docks and began suit jointly against the White Star line and the owner of the dock. The case was tried a few days ago. Mrs. Young recovered a verdict jointly against both defendants. The case will be taken to the supreme court, the White Star line at present being undecided whether it would not be better to secure a new trial in the lower courts, if possible, and if beaten again appeal to the higher court. The contention of the White Star Line is that it does not own the docks upon which the accident took place, and has no interest except a landing privilege, and pays nothing for the use of the property except dockage dues on freight handled there and commission on tickets sold to Algonac. The line contends that it is responsible only for persons after they are aboard the boat, except where it owns the docks, and that it is not good law to render a verdict in an instance such as that at Algonac. The responsibility, it claims, is with the owners of the docks, and not with conditional tenants, where there is no lease or rentals.

The new freight and passenger boat for the Anchor line, to be built at the Wyandotte yards of the Detroit Ship Building Co., for the Duluth-Buffalo service, will be launched and finished in time for the opening of navigation in 1903. The new boat will be 360 feet over all, 45 feet beam and 28 feet deep. Her engines will have 2,000 horse-power. The passenger accommodations will be all above the freight deck and forward of the machinery. The music room, library, dining saloon, galley and mess rooms will be on the promenade deck and clear of the sleeping rooms. There will be four lines of state rooms, occupying with the hall the full breadth of the ship, while at the extreme end will be the smoking room. Eight large parlors are to be located forward of the social hall. The hull of the boat is to be built of steel up to the promenade deck. She is to be named the Tionesta. If the India, China and Japan, the other freight and passenger steamers are kept in service, it will bring the Anchor line fleet of freight and passenger boats plying between Buffalo and Duluth up to four, in addition to a line of freight boats. Another contract from the same owners calls for a steel cargo steamer, 350 feet keel, 46 feet beam and 30 feet molded depth. She will be equipped with power similar to the Chicago of the same line. Both boats are to be ready for the opening of navigation in 1903. These new contracts, with work already under way, will keep the Wyandotte yard busy for a year to come.

CLEVELAND.

Special Correspondence to The Marine Record.

Agents of the package freight lines in Cleveland will meet at the Forest City House, Saturday, with representatives of the union to fix the wage scale for the coming season. No decided change in the scale is expected.

J. G. Silva, grand captain; B. F. Perkins, captain's clerk, of the American Association of Master Pilots, will be in the city to-day. In consequence, there will be a special meeting of Cleveland Harbor, No. 42, at No. 94 Superior street to-night.

While the United States Steel Corporation has not contracted for the carriage of ore next season, the rates seem fairly fixed at 80 cents from Duluth, 70 cents from Marquette and 60 cents from Escanaba, with a total of about 4,000,000 tons placed.

The International District Council of the Longshoremen's Association has changed its place of meeting from 122 Water street to the hall at the corner of Pearl and Detroit streets. The organization meets on the first and third Fridays of every month.

The annual meeting of the Great Lakes Towing Co. which was to have been held yesterday, was postponed until March 19 on account of the inability of some of the officers to be present.

The new steamer building at the Lorain yards of the American Ship Building Co., for J. C. Gilchrist and others will be launched at noon Saturday. She will be named the C. W. Watson. A number of Cleveland vesselmen will be in attendance, going to Lorain by special electric cars.

The survey for the new Pickands, Mather & Co. coal and ore dock and blast furnace at Toledo has been commenced and will be in shape to do some business before the closing of the coming season. The firm has a frontage of 2,200 feet just below the Craig shipyard, and it is claimed that the daily output of the furnace will be 350 tons.

The Lake Shore Railroad Co. have just let the contract for the new coal unloading plant, which is to be erected by them at Ashtabula for Pickands, Mather & Co. It is to be completed by September 1. Several hundred feet of new dockage will be constructed where the old East pier now stands, and on this the new plant will be located. The river will also be widened at this point.

The following meteorological observations are furnished by the office of the United States Weather Bureau for the week ending February 26th: Prevailing wind direction for the week, southeast; highest velocity, 30 miles from the northeast on the 21st; mean temperature for the week, 30 degrees; highest temperature, 46 degrees on the 26th; lowest, 3 degrees on the 20th. Sunrise and sunset data computed for local time: March 1st sun rises 6:36, sets 5:51; March 4th sun rises 6:31, sets 5:54; March 7th sun rises 6:25, sets 5:58.

A rate of \$2.50 has been offered on lumber from up the lakes, but the vesselmen are not disposed to accept it. No charters have been reported at this figure. Lumber carriers are not inclined to make early charters. They are of the opinion that business ought to pay \$3. At least they think that it is now too early to tie up business. All of the advices from the lumber region indicate that there will be a substantial increase in the lumber to be moved next season. Despite the refusal of the steel trust to place any charters at 80 cents, another large block was placed a few days ago on this basis. There are now under charter 2,500,000 tons of ore at the 80 cent basis.

"We need some legislation to protect the fish," said a prominent fisherman the other day, "but the chances are that we will not get it. It is the next thing to impossible to frame a law that will not work an injustice to some of the ports. A closed season which would not interfere with Cleveland would put some of the other ports out of business. Again, practically all of the laws that have been introduced are unconstitutional. All of the laws that have been enacted have failed to stand the test. A law has been introduced in the legislature looking toward the refunding of money which was collected from the fishermen under the license law which has been declared unconstitutional. The trouble is that any law which will protect the fish to any extent is class legislation."

The spring conference between the dock managers at Lake Erie receiving ports and representatives of the various locals of the longshoremen's association will be held in Cleveland, March 13, according to the present plans of the association. The longshoremen will meet March 10 for the purpose of agreeing upon the wage scale to be asked for the coming year, and the conclusion arrived at will be submitted to the dock managers at the meeting a few days later. Contrary to the usual plan, some arrangement will be attempted whereby both the summer scale and that for next winter will both be fixed at the conference between the dock managers and the longshoremen, thus doing away with the necessity of holding another conference next fall or winter. As far as is known now, there will be no difficulty in arriving at the scale, as both sides understand each other thoroughly and feel that there is no necessity of a struggle.

CHICAGO.

Special Correspondence to The Marine Record:

Outside of a few charters for storage purposes last December little has been done in the grain trade this winter. Vessel agents do not recall a time when there was absolutely no business offered at any prices up to so late a time in the winter. As the grain is not accumulating to any great extent, the absence of chartering now does not indicate any rush of business later on.

The Lake Seamen's Union, of Milwaukee, will vote in favor of a scale of \$2 a day in wages to apply on sailing craft at the opening of navigation at all ports on the Great Lakes. A similar vote will be taken at all ports on the lakes in an attempt to establish a uniform scale for the season. Some trouble is expected at Chicago by the attempt to fix the scale at \$2 a day, as the wages at Chicago have usually been placed at a lower figure. It is said that despite the expected attitude of the employers at Chicago, the other lake ports will vote with Milwaukee in favor of \$2 a day.

Sales of vessel property have been more numerous this winter than for several winters past. The prices obtained for the craft transferred are said to be fully up to what was paid last winter, although not as high as during the boom of the winter before. The principal demand has been for lumber carriers, and several old time steamers, whose usefulness in general trade was over, on account of the great increase in the size of modern carriers, will be converted for the lumber trade. One of these was the steamer A. Folsom, which was sold by William Mitchell, of Bay City, to the Hines Lumber Co., of Chicago, for \$30,000. The Folsom is at Manitowoc, and it is thought she will be cut down for the lumber trade at that point.

The banks of the Des Plaines river, at Riverside and Lyons, are strewn with the bodies of dead fish, and for miles the water under the ice is completely filled with dead carp, sunfish, bass, and bullheads. Some of the fish weigh two pounds. Men who have been fishing along the river for years say that never in their recollection have any fish been caught so large as those now dead in the river. It is thought that the water of the stream has been poisoned by refuse from the tanneries at Maywood, or by the sewage from La Grange. The residents of Riverside and Lyons are now hoping that the usual spring freshet will come early and carry the dead bodies away, as they fear disease if the decaying fish are not soon disposed of.

The first boat scheduled to reach Chicago from the east shore will be the Soo City, which will be sent out from St. Joseph next Saturday. The ice field at the end of the lake is remarkably heavy, and now extends as far as the eye can reach. The field extends down the lake some sixty miles, and is believed to reach from shore to shore. Unless southerly winds prevail, which will drive the ice northward, it is doubtful if the Soo City can force her way across. Although the weather has not been severe, it has been favorable for the formation of ice, and old-time mariners say they have never seen more ice in Lake Michigan at the end of winter than there is now. They predict a late opening of navigation, for southerly winds will drive vast quantities of ice into the Straits, where it will stay until it melts.

Against the protest of Trustees Carter, Wenter and Webb, the sanitary district trustees awarded to Lydon & Drews the \$450,000 contract for the river dredging and widening work of the coming year. The price to be paid is 25½ cents a cubic yard, a figure 1 cent higher than was paid last year and 3 cents higher than the national government ever paid for river dredging in the Chicago or Calumet river. Trustee Carter tried to induce the board to do its own river dredging and asked that the board advertise for bids on a complete river dredging plant, which could be used when contractors charged too much. He renewed his accusation that the local contractors were in a combination against the district. By a vote of 5 to 3 the board rejected this proposal and by the same vote gave the contract to Lydon & Drews.

Grand Haven lays claim to being the pioneer in the grain shipping trade on Lake Michigan, which has now reached such enormous proportions. It is a fact not generally known that Grand Haven sent the first cargo of grain down the lakes that was shipped from a Lake Michigan port. Away back in 1836 3,000 bushels of wheat reached that port from Grand Rapids and up the river points, and the brig John Kenzie carried the consignment to Buffalo. Interesting to think that Grand Haven started the great grain carrying trade on Lake Michigan. It was two years later that the first load of grain was taken from Chicago, destined a few years later to be the greatest grain shipping point in the world. Then the steamer Great Western carried down to Buffalo thirty-nine bags of wheat consigned to Ottawa county, N. Y.

Capt. C. E. MacArthur, Daphne, Ala., is the author of "Navigation Simplified." This book is an elaborate technical work, it contains problems required in examinations that are given by government inspectors to masters and mates of sea-going vessels, and other useful and valuable information for sailors, yachtsmen and navigators. Price \$1.

BUFFALO.

Special Correspondence to The Marine Record.

The libel against the tug Champion and the schooner Rounds, by the Western Transportation Co., was dismissed in the United States District Court at Detroit on Tuesday. The trouble dates back to September 21, 1900, when the steamer Buffalo crashed into the dock causing damage to the amount of \$11,800. The Western Transportation Co., owners of the Buffalo, claimed that she had been crowded by the tug Champion and her consort, the schooner Rounds, and therefore libeled the latter boats for the damages sustained by reason of hitting the dock. Judge Swain held that the tug and schooner were not responsible for the accident, and dismissed the libel. The costs were assessed against the Western Transportation Co. The Rounds was owned in Toledo at the time of the accident, but was sold shortly after.

A special from Cheboygan states that the ice bridge at the south end of the Straits of Mackinaw, is impassable, even for men on foot, and has not been safe for teams at any time this winter, several teams having been lost through the ice. If the present weather keeps on, the south passage will be open March 1, and old navigators say the Straits will be open clear through by April 1. A southerly wind would now clear the south passage half way to Mackinaw City. While we shall undoubtedly have a "spell of weather" during March, it is not likely to make much ice in the Straits. Those not initiated do not understand that the great trouble the ferry boats have had in the Straits this winter, the worst on record, is due to light ice, which breaks up, floats around in the current and winds, packs up on the bottom and becomes small mountains on top of the water. The boats never have trouble when the ice is twenty-four inches thick.

Capt. Playfair, of Owen Sound, Ont., has been in Buffalo obtaining a final settlement for the work he did as a wrecker in trying to save the stranded Wetmore and tow. He considers the task a very difficult one and says it would have been impossible to save all the vessels. He is asking about the late fall insurance rules, as he wants accommodation later than he is always able to get it. He feels somewhat aggrieved because his steamer Midland Queen failed to get the cargo of wheat that she went to Fort William for at the end of last season and is suing the Northern Elevator Co. It appears that the steamer was chartered for a cargo at 4½ cents, the top rate last fall, and when she arrived at Fort William there was nothing for her and she had to go away light, which was to run more risk than if she had been loaded. Had she been able to obtain later insurance she would probably have got the cargo, as the charter provided for loading her just before insurance expired.

There is a well-defined rumor among local vesselmen that the Northern Steamship Co. intends to abandon Detroit as a stopping place for their freight and passenger boats. One of the things that has led to this surmise is the fact that the Northern Steamship Co. has not made any effort to renew its six-year lease of the Edward W. Bissell dock at First street. The dock and warehouses and offices at the foot of First street cost the Northern Steamship Co. close to \$60,000 for the past six years, and the lease expires the first of next May. The failure of the officials of the Northern line to say anything in regard to a renewal of the lease is causing uneasiness among the managers of the Bissell dock, as the opening of navigation for freight boats is hardly a month away. It is known that General Manager W. C. Farrington, of the Northern Steamship Co., has said more than once that Detroit business is not worth the expense of stopping there, and he has at times threatened to change the route of the boats. The North West and the North Land, the two big passenger boats of the Northern Steamship Co., are to run between Buffalo and Chicago next season. The line will in all probability charter next year for the Lake Superior run, the steamer Manitou, of the Manitou Steamship Co.

The lumber dealers of the Tonawandas are now hustling to secure the best grades of stock to be shipped to their yards in this city during the coming season of navigation. Some of the largest lots of different kinds of lumber ever recorded at this early date by local dealers are under contract. The indications are that the receipts of lumber at the Tonawandas for 1902 will be fully as large of those of the last season. However, some of the local dealers and vessel owners predict that the amount to be shipped here during the coming season will be even larger than that of the season of 1901. Their predictions are based upon the fact that the lumber tonnage is being chartered more extensively now than heretofore and that more lumber has been bought this winter than last season. Among the local lumber firms reported from Western and Canadian ports to have closed deals for large blocks of stock, are the Eastern Lumber Co., Skillings, Whitney & Barnes and White & Gratwick. The Eastern company is reported to have bought 42,000,000 feet of stock in Canada and the west. The Turner Lumber Co., of the Georgian Bay district, has sold 29,000,000 feet of lumber to Skillings, Whitney & Barnes, of North Tonawanda. This lumber is yet to be manufactured and shipped to the yards here during the next navigation season.

The steamboat Montauk has been sold to the Algoma Railroad Co., of Ontario, and will run under the British flag, leaving New York for the lakes about March 1st.

PORT HURON.

Special Correspondence to The Marine Record:

It is reported that the steel steamer Jesse Spalding, owned and controlled by parties in Chicago, is to tow the schooner Mary E. McLaughlin the coming season.

The steamer Mary Groh, which recently underwent repairs at the Wolverine drydock, has been towed to her dock in Black river by the steamer Conger.

The Meswald case recently decided by Judge Law will be appealed to the supreme court. This is the case where most of the estate was eaten up in attorneys' fees and expenses.

The members of the Port Huron life-saving crew have been notified to report for duty at the life-saving station on April 10. The government evidently believes that the back bone of winter is broken and that spring is near at hand.

Capt. E. F. Matteson, of the steamer Aztec, and Capt. Harry Lareson, of the Miztec, have been re-appointed. They will report in the city March 1, to take charge of the refitting of their vessels. They made an excellent record last season in sailing these vessels.

The new steel steamer building at the yards of the Jenks Ship Building Co., to the order of Cheesebrough Bros., will be launched on Saturday next. The next craft to be laid on the ways will be the large lighter for wrecking purposes, ordered by the Great Lakes Towing Co.

The sailors of the city attended the Ross Memorial church in a body last Sunday, and listened to a special sermon by the pastor, Rev. P. C. L. Harris. Mr. Harris spoke of the sea-faring life, and gave many illustrations. This was the annual sermon and was largely attended.

Vessel Inspectors Stewart and Van Liew have received circulars from the department at Washington to the effect that all licenses issued to officers of vessels under the act of May 28, 1896, may be renewed for another five years at any time within 90 days previous to their expiration.

Health Officer Mills announces that the quarantine against Sarnia, on account of smallpox has been raised. He says those afflicted with the disease there have all recovered or practically so, and no new cases have developed. Communication between the town need no longer be interfered with.

It is said that one reason the ferry service between Port Huron and Sarnia was discontinued, was because the town of Sarnia did not want to employ an inspector to keep up the border quarantine. The boats were losing about \$25 per day and the ferry company was glad to quit. It was unable to do so of its own accord, owing to an ordinance in force in Sarnia.

The Times understands that James D. Austin is a candidate for deputy United States marshal in place of Thos. Lomasney, whose resignation is at present in the hands of the United States Marshal. Mr. Lomasney has given out that he will not continue in office unless a salary is attached to it, while Austin's friends say he will do the work for the fees connected with the office.

LETTERS AT DETROIT MARINE POST OFFICE.

FEBRUARY 26, 1902.

To get any of these letters, addresses or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter giving the date of his list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Ackley G. M.	Patterson Walter.
Baumbard Wm.	Ryan J. W., City of Cleveland.
Berney J. Wright.	Thompson Jas S. Tampa.
Edwards Wm.	Wallis Fred, Siemens.
McQuitter W. G.	Whiting C. Black Rock.
Millekin E. P., Filer.	
Pliske E. C., Matoa.	

F. B. DICKERSON, P. M.

THREE LAUNCHES ON SATURDAY.

The steel steamer, William Nottingham, building to the order of the United States Transportation Co., Capt. W. W. Brown, manager, will be launched from the Buffalo yards of the American Ship Building Co., Saturday.

The steel steamer building for Cheesebrough Bros., Bay City, by the Jenks Ship Building Co., Port Huron, is to be launched Saturday afternoon.

There will be launched on Saturday next, from the Lorain yards of the American Ship Building Co., the steel steamer, C. W. Watson, building to the order of J. C. Gilchrist & Co., Cleveland.

V. L. Emerson, who recently at Ottawa ran a 30-foot launch almost 30 miles an hour by a Buffalo gasoline motor, announces that this year he will build a launch about 48 feet long and 5 feet beam, to run 40 miles an hour. The boat will have three screws attached to a 400 h. p. engine, and the total weight will be about 1,500 pounds.

STRANDING AND COLLISION UNDER OFFICIAL GUIDANCE.

In spite of the rules and regulations framed by the International Marine Conference of 1889, to secure greater safety for life and property at sea, strandings and collisions prevail to a fearful extent. According to the report of the Liverpool Underwriters' Association, the casualties to vessels of 500 tons register and upwards during the month of August, 1901, numbered 348 as against 349 during the same month of the previous year. Classified they were: Weather damage 33; foundering and abandonment 3; strandings 113; collisions 113; fires and explosions 21; missing 2; and others 63. From which it appears, that the number of strandings was as large as the number of collisions; and both together represent nearly two-thirds of all disasters.

The International Marine Conference met at Washington in 1889, at the invitation of the United States Government, according to an act of Congress approved July 9, 1888, "Providing for an International Marine Conference to secure greater safety for life and property at sea," said Marine Conference "to revise and amend the rules, regulations, and practice concerning vessels at sea, and navigation generally, * * * for the prevention of collision and other avoidable marine disasters." Twenty-eight governments were represented in the conference by 61 delegates, whose stations in life were as follows: 26 officers of the navy, of whom 8 were admirals; 25 diplomats and kindred occupations; 6 captains of the merchant marine; and 4 lawyers. The merchant marine of the world comprising a fleet of 32,298 vessels at that time, had all in all 6 representatives, the rest being outsiders.

Red tape prevailed, and whenever any of the sailors opened his mouth there was always somebody with a silvery tongue who made him shut up.

Strandings have always been the bane of navigation, and therefore should have been one of the principal subjects of discussion. From the protocol of proceedings, however, it appears, that strandings were not discussed at all, the only allusion to them being found in the adopted report of the committee on life-saving systems and devices, where it reads: "For countries which have not already provided by legislative enactments for official inquiries into the causes and circumstances of shipwrecks or other accidents to vessels that are of a serious importance, the adoption of such laws is recommended, as it is believed that they are the most effective means by which masters and officers of vessels can be impressed with a proper sense of the serious responsibility that rests upon them, and that they therefore constitute one of the most important safeguards for life and property afloat, that it is possible to devise. * * * They would, moreover, give information which might be of great value in showing the general causes and distribution of wrecks, and indirectly indicate the methods by which casualties might be averted or lessened."

Official inquiries into the causes and circumstances of shipwreck being all the conference was able to suggest; such inquiries having been made previously for many years in several countries, without ever resulting in the discovery of the general causes of stranding, and never will, because of inquiries being conducted on wrong principles.

Stress of weather excepted, the causes of stranding are errors in position, due to the use aboardship of faulty logs, faulty and limited astronomical methods, an incorrect basis and theory for soundings and sometimes incorrect charts, [see the MARINE RECORD of Nov. 21, and Dec. 19, 1901.] In short, the principal cause of stranding is the rottenness of the methods in use for finding the position of a vessel at sea; and as these methods are officially approved, officials are not prone to denounce them. The conference unable to correct and improve the methods in use, sagely let prevention of stranding alone. For this reason the increased danger of stranding, on account of compelling vessels in fog and thick weather to go at a moderate speed, was also ignored; and the necessary qualifications of officers were left at the discretion of every government, as ignorant of the principal causes of stranding as the conference.

Prevention of collision has not fared any better than prevention of stranding at the hands of the conference.

The danger of collision is in the inverse ratio of the distances between vessels; the less the distance, the greater the danger; and the greater the distance, the less the danger. Therefore, preventing collision depends partly on the knowledge of the distance between vessels. Besides, for two vessels meeting or crossing there are two ways to avoid collision; when meeting, to pass either to the right of the other vessel or to the left of her; and when crossing, either of the two vessels may cross first or ahead of the other vessel.

The international rules take only one of the two ways into consideration and leave the other undefined. They are, therefore, only one-sided rules, and as such do not prevent collision, but cause collisions, as soon as vessels are compelled to depart from the rules.

Condensed they read:

"When two steam vessels are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other.

When two steam vessels are crossing so as to involve risk of collision, the vessel which has the other on her starboard side shall keep out of the way of the other; and shall, if the circumstances of the case admit, avoid crossing ahead of the other, and if necessary, slacken her speed or stop or

reverse; and the other vessel shall keep her course and speed. Due regard shall be had to all dangers of navigation and to any special circumstances which may render a departure from the above rules necessary in order to avoid immediate danger.

A steam vessel under way, in taking any course authorized or required by the rules, shall indicate that course by the following signals on her whistle or siren, viz.: One short blast to mean "I am directing my course to starboard." Two short blasts to mean "I am directing my course to port."

According to the above rules the only course authorized is to starboard, and therefore no two blast signal is required under the rules. And to indicate a single authorized course by whistle is superfluous, the more so as of two vessels crossing, the vessel which has to keep her course and speed has to be silent, because a repetition of the signal by her would indicate that she was going to alter her course to starboard which she is not permitted to do. Under the rules both the one blast and the two blast signal, are superfluous, because the rules, as they are, can be carried into effect without any signals whatever. From which it is evident that helm signals as defined by the international rules are of no use. As long as the rules are followed there is safety; but as soon as one of the vessels is compelled to depart from the rules, there is collision, for the rules do not say what shall be done in such a case. The mere blowing of whistles does not prevent collision.

Leading vessels into "immediate danger" the rules leave it to the sailors to get out of it as best they can. The following final declaration of one of the principal framers and expounders of the rules is characteristic of the sense of the Conference! (See protocol of proceedings page 1287.) "The meaning (of art. 27) is this: The law says to the sailors we give you certain rules. We (the Conference) have given you these certain rules, but of course there may arise circumstances where these rules are not applicable, as unforeseen dangers of navigation or other circumstances. and in case of such circumstances you are to depart from the rule. You must not stick to the rule. Your principal object is always to avoid immediate danger, and of course, that means immediate danger of collision."

Here we have an official acknowledgement not only of the imperfection of the international rules, but of their utter worthlessness, because of being not applicable in all cases.

In general, for any two parties meeting or crossing there are two ways to prevent collision; in meeting, either to pass to the right or left of one another; in crossing, either party may cross first or ahead of the other party. The same is true of two vessels meeting or crossing, and in order to prevent collision it is necessary for them to agree in their choice; and, that sufficient time and space be left to carry out the agreement.

According to Admiral Bowden-Smith (see protocol of proceeding page 540,) "Steamers going at full speed, require two ships' length to get off of their own line of advance." Taking the length of the great liners as standard, about 700 feet, twice 700 equals 1,400 and for two vessels on opposite courses twice 1,400 equals 2,800 feet, or a distance of one half mile between the two vessels is required to get off of their own line of advance. In order to prevent collision a safety margin of 50 per cent. is certainly not too much, so that the required distance at which vessels have to come to an agreement is three-quarter mile, which may be taken as standard in all cases of vessels meeting or crossing.

To make the agreement one blast, or two blasts of the whistle are required.

In meeting, one blast means "I am directing my course to starboard."

Two blasts mean "I am directing my course to port."

In crossing, one blast means "The vessel to starboard crosses first or ahead of you."

Two blasts mean "The vessel to port crosses first or ahead of you."

To prevent mistakes, the signal given by one of the vessels is to be repeated by the other vessel if she is agreed; and in case of non agreement she has to give the danger signal, several short blasts in quick succession, whereupon both vessels have to slow down to bare steerage way until they are agreed and past one another.

At a distance of three-quarter mile apart it is imperative, for both vessels to be agreed as to the manner of getting past one another, or to slow down to bare steerage way, which provision prevents collision under all circumstances. The simplicity of this provision is its perfection.

Wherever under this rule helm signals are used, the number of collisions is comparatively small and nearly zero, as has been proven by long experience on inland waters.

In their extended application helm signals insure not only safety but also do away with the silly requirement under the international rules, to know, in the daytime, whether yours is an overtaking or a crossing vessel; in other words, to know whether you are more than two points abaft the beam of the other vessel or less than two points, in order, to determine whether you have to cross astern of the other vessel or have the privilege of crossing ahead of her, as a mistake in this respect may cause collision under the international rules.

When vessels meeting or crossing are compelled to depart from the international rules collision is certain, because the provision to be agreed in time, or slow down to bare steerage way, on which their safety depends is wanting.

And as with this provision helm signals prevent collision under all circumstances, it seems but rational to adopt them in all cases of vessels meeting or crossing, and throw the international rules of the road overboard.

The protocol of proceedings bears ample evidence, that the international rules of the road were not made to suit sailors, but to suit courts and lawyers. The lives of the men who framed the rules were not at stake, it was only the life of poor Jack Tar, having no voice in the matter; not to mention the lives of thousands of passengers sometimes under his care.

JOHN MAURICE.

Civil Engineer and Nautical Expert.

Chicago, January, 1902.

SOME OF MARCONI'S CONCLUSIONS.

P. T. McGrath, editor of the Evening Herald, St. John's, Newfoundland, contributes to the March Century, an article on Marconi's work which the inventor authenticates in a prefatory note. The writer says:

In one of our many talks at the St. John's station, Mr. Marconi gave me this digest of his conclusions:

The wireless agency is most effective over marine areas. The unbroken surface of the ocean enables distances to be obtained and results achieved which cannot be approached on land. Over low-lying country two thirds of the distance can be reached, but over tracts where the usual diversified topographical features are found the potency of the vibrations is reduced to one-half what it is at sea. High hills do not constitute an obstacle, but the ground itself retards the signals. The vibrations seem to reach slightly farther in fog than in fine weather; atmospheric conditions do not seriously affect them; electrical disturbances are their only foe. Mr. Marconi's later experiments appear to indicate that a pole two hundred feet high gives the best results, as the wire suspended from it comes into contact with sufficiently varied atmosphere strata, while at the same time it can be made thick enough to receive a substantial electrical influence from the radiating ether waves which are caught by it. With a balloon or kite elevated to an altitude of four hundred feet or so, the wire must be very slight, and the ceaseless swaying of the upholder also interferes with the reception of definite signals. Strangely enough, a horizontal aerial wire is of no value, gives out no energy for his purposes, and was long ago discarded. Nor is it an advantage, in marine signaling, to set up the pole or kite on a high hill.

Proximity to the sea is desirable, and a low-lying spit near the ocean is best. Another less interesting circumstance is that every piece of ground will not serve for the locating of a station. Some geological formations are perverse; others are responsive. Signaling from one headland, a distance of two hundred miles may be reached; from another the range may be only half that. On ships the aerial wire is suspended from the top of the mast, hanging loosely down among the stays and rigging. It is composed of copper and steel and will stand considerable strain. It enters the operator's room at the deck, and the mechanical features are similar to those of an ordinary telegraph-office.

CHICAGO'S CINDERELLA.

Elliott Flower, author of "Policeman Flynn's Adventures," in an article on "Chicago's Great River-Harbor," in the February Century, writes thus of the transformation that has come over the Chicago river:

"The Cinderella of Navigable Streams," is a title that may well be given to the Chicago river. Doubtless to those who never heard anything good of it, including many who live in Chicago, this will seem humorous, but for that very reason it fits. The Chicago river has been maligned, neglected, in fact, shamefully treated in every possible way. For fifty years it was a drudge, receiving the most contemptuous treatment from those it served. They made it a dumping-ground for their refuse; they stole from it; they disputed its right of way; they blocked it with center-pier bridges; they limited its depth by putting tunnels under it; they created sharp angles in building their docks, and then they complained of the annoyances for which they themselves were responsible, and insisted that there ought to be no river. Yet, in spite of all these discouragements, the stream did its work as faithfully as circumstances would permit, and awaited the coming of the fairy prince. He has come in the person of Uncle Sam, who proposes to see that justice is done, and that, as soon as may be possible, this neglected and hard-working river shall appear in raiment befitting its rank as one of the greatest harbors in the world.

In truth, the Chicago river has a fine future before it, not alone in the way of commercial importance, but also in the way of beauty. It is not an attractive stream now, but it is destined to be one. It has improved greatly since the United States Government took charge of it, and the improvement is going on steadily. It has been clarified by the opening of the drainage canal. It has lost many of its kinks; it is being widened, and its most unsightly features are slowly disappearing. Old buildings are being replaced by better structures, the docks are neater and more substantial, the factories and warehouses are becoming more presentable—in brief, the Chicago river (both as to its water and its banks, is being cleaned up.

EARLY LAKE SUPERIOR HISTORY.

The recent retirement of Joseph Austrian from the active management of the Lake Superior & Michigan Transportation company's business, recalls recollections of early navigation on Lake Superior. It was late in the fifties when Leopold & Austrian put on their first boat, and not many months passed before other vesselmen realized the enormous freight business to be gotten at these points, and Capt. Spencer sent the Cuyahoga up. For several years these two competing lines held all the business.

In connection with the retirement of Mr. Austrian and of historical interest generally, is a statement from Capt. D. Atkins, of Buffalo, which was printed several years ago and in part, is reproduced from the Houghton Gazette as follows:

"I don't think there is anyone now living, at least, in active business connected with lake navigation, who explored this lake as early as I did. In 1844 I coasted the south shore of the lake in a batteau. There was a party with me looking for copper. We camped at Carp river, three miles below where Marquette now is, and at that time there wasn't a tree cut on the present site of that city. They grew solid down to the water's edge.

"In '46 I was one of the crew of the propeller Independence on her first trip up this lake. The canal was not built until nine years afterwards. This steamboat was hauled over the portage of 'Soo' falls the winter of '45-6. Copper Harbor, Eagle Harbor and Ontonagon were the only ports then on the lake. In June of '46 we came around Whitefish Point at the lower end of the lake into Lake Superior.

"The schooner Algonquin sailed up here in 1847. John Halloran was the captain, and I was one of the crew, which consisted of two boys. The Algonquin—what's left of her—now lies under the water over at Old Superior.

"In 1857 I landed at the point where Duluth is now located, from the steamer Lady Elgin, commanded by Capt. John Wilson. Among her passengers on the trip were the original owners of the townsite of Superior City. Among them was John C. Breckinridge, subsequently vice-president of the United States, and Senators Stephen A. Douglas and Jesse D. Bright, of Illinois.

"We landed on a little log dock constructed for unloading provisions for the settlers. They had a shanty warehouse and there were several log houses scattered about in the forest that then invested the site of Duluth. J. B. Culver was then agent for the American Fur company at Fond du Lac.

"When I brought the steamboat Metropolis here from Lake Michigan, June 9, 1873, there was an ice pack for twenty miles out into the lake from Duluth, so firm that it took me three days to work through it."

"In 1870 I wrote to my home paper, the Buffalo Courier, predicting that in twenty years' time there would be more commerce going down Lake Superior than there would through the Straits of Mackinac from Chicago and Lake Michigan, and calling the attention of the merchants of Buffalo to that fact. The Chicago papers hooted at it. Well, now, it didn't take twenty years. The commerce of tonnage that goes down Ste. Marie river through the 'Soo' was greater than through the Straits of Mackinac several years ago.

"J. B. Culver, George Barnum, William R. Stone, and the First National bank inaugurated the original South Shore line of steamers by purchasing from Milwaukee the steamboat Metropolis. I was captain of the boat. It ran from here to Bayfield, Ashland, Ontonagon, Houghton, Hancock and Marquette and return. The railroad which took its place afterwards still retains the name of the South Shore."

From 1870 to 1876, Capt. Atkins was a resident of Duluth. In 1870 the Union Steamboat Co. extended its line from Houghton to Duluth, and the first boat to come up was the propeller Artic, and on Aug. 2 of that year it met the first train that came from St. Paul on the Lake Superior & Mississippi railroad, as the St. Paul & Duluth was then called.

Capt. Atkin said: "I was agent of that boat, and on her was shipped the first barrel of flour and the first bushel of wheat that went from Duluth. The old breakwater elevator and dock were not finished. So they had to lay down loose boards in order to roll the flour into the boat, and then the wheat was taken in wheelbarrows and wheeled aboard the boat and dumped in, about 10,000 bushels. The wheat came from ex-Governor Hubbard's mill at Red Wing."

THE decision of the St. Louis World's Fair Directors to devote \$200,000 to promotion of the science of aerostation has excited great interest throughout the world. The magnificent prize of \$100,000 is worth striving for. Doubtless the requirements will be so high as to make the probability of winning it remote. But as the remaining \$100,000 is to be expended for minor prizes and for the general expenses of providing in the best manner possible for serious work, there is enough in the way of immediate return to stimulate invention and promotion. It is understood that the advice and co-operation of leading scientists has already been sought and promised. In this connection we notice that Mr. Octave Chanute, of Chicago, the well known civil engineer, is to deliver an illustrated lecture at Washington University, St. Louis, on the evening of March 4th, on "Modern Air-Ships."

IMPROVING PORTAGE LAKE CANALS.

Bids will be received at the government engineer's office in Houghton, Mich., for the dredging and improvement of the Portage Lake ship canal channels up to March 5, 1902. The bids will be opened after March 5, and they must be accompanied by a guarantee bond or check for \$5,000.

There is about \$40,000 available for this purpose. The amount of dredging done will depend upon the prices, as the work cannot exceed the amount of money available, and hence it may result in the reduction of the work which has been planned. It is stipulated in the contract that all wreckage, dead-heads, logs, etc., and in fact every obstruction must be removed. The following is the work to be done as outlined in the proposals:

Inside of the breakwater at the upper entrance, 36,000 cubic yards of hard material.

At the head of Portage Lake, soft material, 123,000 cubic yards.

From the intersection of range lights, 14-15 13 and 8, near the head of Portage river down to the lower end of cut 4, hard and soft material, 89,000 cubic yards.

All the balance of Portage river, both at the head and below cut, soft material, 52,000 cubic yards.

Some dredging at the Keweenaw Bay entrance to Portage river, where there are some shoals and where some heavy digging will be encountered, 60,000 cubic yards. The dredging will consist in part of cleaning up the channel to the required depth, but the larger amount of material will be in bank digging.

It is further stipulated that all materials which have been dredged must be transported to deep water not less than one-half a mile from the end of the piers in Keweenaw bay, or one mile in Portage lake at the head of Portage river; further, at the head of Portage lake, the material must be hauled to the little bay opposite Harrington's island.

The dredge must be capable of removing 125 cubic yards of soft material per hour and the contractor will be expected to continue operations 16 hours daily. The work must be commenced by the tenth of May and be completed by November 1.

EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, report the conditions of the eastern freight market as follows:

The number of fixtures reported show somewhat of an increase over the last few weeks, and in exceptional cases owners have been able to obtain a slight advance in rates. A fair number of steamers have been chartered for timber from the Gulf ports, and the rates secured are on a parallel with previous transactions. From the Bay of Fundy ports a few deal charters are reported for next Spring loading and further business could no doubt be consummated on the basis of 36s. 3d per Standard. The two fixtures reported in this issue for case oil to Shanghai at 23c. mark an advance of 1c, per case over the last rate paid, and charterers appear inclined to make further commitments at similar figures. Cotton charters both from the South Atlantic and gulf ports are neglected, and no indication of any demand from these districts. Time charterers are averse to taking up tonnage for any lengthy period, excepting at very advantageous rates.

Activity of consequence in sail tonnage continues lacking and nothing has occurred to have influence on the market, either one way or the other.

Grain to Liverpool is quoted at 3 cents; Glasgow, 2 cents; London, 3½ cents; Bristol, 4 cents.

STATEMENT OF THE VISIBLE SUPPLY OF GRAIN.

As compiled by George F. Stone, Secretary Chicago Board of Trade February 15.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	3,282,000	484,000	354,000	2,000	813,000
a float.....	361,000	84,000			
Chicago.....	6,604,000	4,455,000	462,000	1,029,000	169,000
a float.....	417,000				77,000
Detroit.....	367,000	152,000	31,000	110,000	23,000
Duluth.....	11,502,000	165,000	180,000	455,000	303,000
a float.....	511,000				
Port William, Ont..	4,535,000				
Milwaukee.....	601,000	122,000	309,000	34,000	195,000
Port Arthur, Ont..	250,000				
Toledo.....	59,000	932,000	529,000	182,000	
Toronto.....	64,000		14,000		58,000
On Canals.....	46,000	3,000	112,000	37,000	50,000
Grand Total.....	54,385,000	10,789,000	4,064,000	2,258,000	2,116,000
Corresponding Date, 1900.....	57,536,000	18,218,000	10,567,000	1,156,000	1,650,000
Increase for week.....					
Decrease " ".....	1,021,000	343,000	226,000	25,000	29,000

While the stock of grain at lake ports only is here given, the total shows the figure for the entire country except the Pacific Slope.

Damages—Lost Vessel.—Parties to a charter party may stipulate the agreed value of the vessel as liquidated damages to be paid in the event of a failure to return the vessel, and such stipulation is conclusive upon them, in the absence of fraud or mistake. Sun Printing & Publishing Asso., vs. Moore, 22 Sup. Ct. Rep. (U. S.) 240.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Seamen—Shipping Articles.—Seamen become obligated to merchant vessels from the time they sign the shipping articles, and from that time they may incur the penalties of desertion. Tucker vs. Alexandroff, 22 Sup. Ct. Rep. (U. S.) 195.

Admiralty—Finding of Commissioner—Valuation of Vessel.—The finding of a commissioner as to the value of a vessel lost in collision is entitled to great respect, and it will not be set aside where he acted within the bounds of reasonable judgment and upon conflicting testimony. The Gertrude, 112 Fed. Rep. (U. S.) 448.

Admiralty—Sufficiency of Tender by Respondent—Docket Fee.—A respondent in a suit in admiralty, who makes a tender and deposit at the time of filing the answer, is not required to include therein a docket fee, which is only taxable, under Rev. St. § 824, when the case is determined on its merit after a hearing. Merritt & Chapman Derrick & Wrecking Co., vs. Catskill & N. Y. Steamboat Co., 112 Fed. Rep. (U. S.) 442.

Time Within Which Demurrage May be Recovered.—A charter contained the following provision: "Demurrage to be paid for each working day beyond the days allowed for loading and discharging at fourpence per registered ton per day, and the charterers may keep the ship on demurrage ten days." Held, that the last clause did not limit the time for which demurrage was recoverable, leaving the question of damages for a longer detention to be determined by evidence, but that the stipulated rate was recoverable for each working day beyond the lay days allowed, whether more or less than ten days. Jonassen vs. Keyser et. al., 112 Fed. Rep. (U. S.) 443.

Shipping—Damage to Cargo—Seaworthiness.—A ship, just prior to her leaving Liverpool for a voyage to San Francisco, had carried a cargo of wheat from Portland, Or., to Ireland, and delivered it in good condition. In Liverpool she was inspected by competent persons, and her decks found in fit condition. On the return voyage she encountered gales and heavy seas for three weeks, while rounding Cape Horn, during which she labored heavily, and her deck seams opened, admitting sea water, which caused damage to her cargo. Held, that such evidence was sufficient to sustain her claim that she was seaworthy when the voyage was begun, and that the damage was caused by perils of the sea, owing to the unusually rough weather encountered. The Marechal Suchet, 112 Fed. Rep. (U. S.) 440.

Desertion—Habeas Corpus.—The production by a Russian vice-consul, of official documents showing that a person sought to be arrested and detained as a deserter from a Russian ship of war formed part of her crew, required by the treaty with Russia of 1832 as a condition of receiving the assistance of the local authorities, is waived by petitioner for a writ of habeas corpus to inquire into a detention under such proceedings, by his admission upon the hearing accompanying the offer of the passport under which he entered the United States, and that he came to the United States as a member of the Russian navy, detailed to become one of the crew of such cruiser, and that he came for that express purpose. Tucker vs. Alexandroff, 22 Sup. Ct. Rep. (U. S.) 195.

Shipping—Demurrage—Lay Days—Construction of Charter Party.—A provision in a charter made in Liverpool for the carrying of a cargo of timber from Ship Island, excluding from the computation of lay days at the port of loading "any time lost by reason of fire, droughts, floods, storms, strikes, lockouts, combinations of workmen, or any extraordinary occurrence beyond the control of the charterers," does not apply to time lost by reason of the charterers failing to have the cargo ready at the usual place of storage, on account of a drought which was prevailing at the time of charter, and which affected the rivers by means of which the cargoes were ordinarily brought from the interior, but did not in any way affect the delivery of cargoes from the usual place of storage to the ship. Jonassen vs. Keyser et. al., 112 Fed. Rep. (U. S.) 443.

Nationality of Vessel—Trusty Provision.—A vessel which has been launched, but is still in process of construction under a contract to build a protected cruiser for the Imperial Russian government, is a Russian ship of war, within the meaning of the provision of the treaty of 1832 with Russia, which authorizes the arrest and surrender of deserters from the ships of war of that country, although under such contract the vessel may be rejected for deficient speed or excessive draft, and during her construction is at the risk of her contractors until she is actually accepted or actual possession taken, where the contract also provides that the vessel shall be constantly subject to inspection by a board appointed by the Russian Ministry of Marine, and that whether finished or unfinished, the vessel and all materials intended for her construction, when brought upon the premises of the contractors, shall immediately become the exclusive property of the Russian Ministry of Marine.—Tucker vs. Alexandroff, 22 Sup. Ct. Rep. (U. S.) 195.



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CLEVELAND, O., FEBRUARY 27, 1902.

EVOLUTION OF WATER TUBE BOILERS.

However perfect we may now have got the water-tube form of steam generator, the broad fact remains that it adds little if anything to economy in the production of steam. We have still got to put something like 22,000,000 foot-pounds of potential energy, in the form of two pounds of coal, into the furnaces of our boilers, be they water-tube or cylindrical, to get 33,000 foot-pounds of work out of our engines.

Beyond a slight saving in floor space, a little economy in weight, and the advantage of rapid steam raising, the water-tube boiler has done nothing to advance the economics of steam engineering. And it is doubtful whether the slight advantages just named are not more than eaten up, from a monetary point of view, in the extra cost of upkeep of the water-tube type.

And the introduction of the type is not by any means of so recent date as many engineers suppose, for as far back as 1774 one John Blakey constructed what may, perhaps, justly be considered the earliest type of water-tube boiler. This primitive attempt consisted of three water pipes, alternately inclined, resembling a Z, and connected at the ends by bent tubes, so that the steam formed in the lower limb had to force its way through the water contained in the upper tubes of the boiler in order to supply the engine.

Unfortunately, we have no record of the coal consumption of this type of boiler, but it must have been something enormous.

This crude attempt was, however, soon followed by others, and passing over Voight and Fitch's pipe boiler, which was put into their steamboats on the Delaware river in 1787; Rumsey's boiler, patented in 1788; Pitt's & Strode's boiler, patented in 1792; Dale's, in 1793; Barlow & Fulton's boiler, which was fitted to a boat on the Seine in 1793; and Wilcox's boiler, patented in 1801, we come to Woolf's sectional boiler, which was patented about 1803. Stevens, in America, employed, so we are told in Mr. Leslie S. Robertson's excellent book, "Water-tube Boilers," from which we are now quoting, a form of water-tube boiler which he fitted in a screw boat in 1804. This boiler contained 100 tubes of 2 in. diameter, and 18 in. long plugged at one end, and connected at the other to a central water leg, the furnace gasses passing around and among the radiating tubes. A "small tube" boiler, the tubes whereof were closed at one end, and opened into a common chamber, was patented by Trevethick in 1815. From this date onwards patents for water-tube boilers became fast and furious—in fact, the first forty-five pages of Mr. Robertson's book are taken up

by a very brief recapitulation of them, aided in some few instances by illustrations. But the early application of the water-tube boiler on board ship is a briefer story, and to this we prefer to turn.

Undoubtedly one of the earliest sea-going steamers fitted with water-tube boilers was the *Thetis*, built in 1857 by Scott & Co., of Greenock, and fitted with a tubulous boiler by J. M. Rowan, of Glasgow. The vessel was an experimental one, and after a year's trial her boilers gave trouble, the tubes ultimately failing through internal corrosion. In 1859 J. M. Rowan and T. R. Horton brought out a "cellular" boiler, which was fitted in 1860 to the *Athanasian* and some paddle steamers intended for river work in India.

The boilers of the river steamers ran for ten or eleven years, and were then replaced by Rowan and Horton boilers of the Propontis type. The boilers of the *Athanasian*, however, had to be removed after being in use for nearly a year, owing largely to the corrosion of the tubes from the use of sea water, and were replaced by a water tube boiler, designed by Mr. James Howden, of Glasgow, who has done so much for the development of forced draft with heated air. In 1870 the *Marc Antony* and the *Fairy Dell* were fitted with tubulous boilers. They made two or three voyages, but, ultimately, both ships were lost, owing to the failure of the boilers.

But perhaps the most interesting application of tubulous boilers of this class in the early days was the case of the Propontis. This ship was fitted with Rowan & Horton's 1869 boiler, which is generally referred to as the Propontis-type boiler, though it was fitted to a steamer named the *Haco* two years before.

The first voyage of the Propontis was from Liverpool to the Black Sea and back. The boilers were fed with distilled water, the working pressure being about 135 lb. The tubes, however, pitted badly and were continually giving out. The story of the failure of these boilers is too well known to need repetition here. But the case of the *Montana* and *Dakota* is, perhaps, not so well remembered, and may be worth recalling. These two Guion liners were fitted, in 1876, with water-tube boilers similar to the Perkins boiler. The *Montana* left the Tyne with eight boilers, but before she got to the Isle of Wight six of these had burst. She was towed into Plymouth, and, after repair, continued her journey to Liverpool. It was found during the voyage that the lower tubes contained steam only and not water. The Board of Trade refused to certify the boilers, and a commission was appointed, in connection with the Admiralty officials, to test them on a six days' trip on the Atlantic, but the results proved so unsatisfactory that they had to be taken out.

We know that since then great progress has been made with the water-tube boiler, but, as we indicated at the opening, the man who pays the coal bill is still looking for the boiler which will give us 1 i.h.p. at the engine for considerably less than two pounds of coal per hour in the boiler. For naval purposes, we grant, the quick steam raiser is essential, and coal is one of the items in a warship's cost which need not be considered.

THE DIFFERENCE IN FOGS.

The fog of London and the fog of the sea alike discompose traffic, and the omnibuses and the steamships alike have to lay in for safety. But while the London fog gets into your innermost room and baffles even the electric light—though the candle comes out triumphant, curiously—the densest fog at sea does not disturb the saloon or the stateroom. Why is that?

The word "fog" has not been traced back further than the sixteenth century—but the thing was known in the early years of the fourteenth. The commons, with the prelates and nobles visiting London for the parliaments and on other occasions, united in petitioning Edward I. to compel the burning of only dry wood and charcoal, as the growing use of the sea coal corrupted the air with its stink and smoke, to the great prejudice and detriment of health. In 1306 the king prohibited the use of coal. Heavy ransom and fines were inflicted for disobedience. In the case of recalcitrant brewers, dyers and other artificers, the furnaces and kilns were destroyed. But the restriction was evidently removed, for in 1309 \$250—probably equal to about \$4,000 now—was paid out of the exchequer for wood and coal for the coronation of Edward II.

LOCAL AND ASSISTANT INSPECTOR OF HULLS STEAMBOAT INSPECTION SERVICE.

The United States Civil Service Commission announces that the examination scheduled to be held on March 4-5, 1902, at the places mentioned in the accompanying list for the position of local and assistant inspector of hulls in the Steamboat-Inspection Service, has been postponed to April 2-3, 1902.

The examination will consist of the subjects mentioned below, which will be weighted as follows:

Subjects.	Weights.
1. Letter-writing (Third grade)...	10
2. Arithmetic	10
3. Hull Construction	30
4. Pilot rules and inland navigation	20
5. Lifeboats and liferafts	10
6. Experience	20

Total 100

Information relative to the scope of the examination may be found in sections 37 and 161 of the Manual of Examinations, revised to January 1, 1902.

Age limit, 25 to 55 years.

From the eligibles resulting from this examination it is expected that certification will be made to the position of local and assistant inspector of hulls in the Steamboat-Inspection Service, Jacksonville, Florida, at a salary of \$1,500 per annum, and to other similar vacancies as they may occur.

This examination is open to all citizens of the United States who comply with the requirements. Competitors will be rated without regard to any consideration other than the qualifications shown in their examination papers, and eligibles will be certified strictly in accordance with the civil service law and rules.

Persons who desire to compete should at once apply to the secretary of the local board of examiners at the places mentioned in the accompanying list, or to the United States Civil Service Commission, Washington, D. C., for application Form 1087 and a copy of the Manual of Examinations. The application should be properly executed and filed with the Commission at Washington prior to the hour of closing business on March 22.

AN ANCIENT ENGINE.

"Probably one of the best examples of historical engines is the 'Earlston,' an old Newcomen pumping engine still occasionally worked at the Caprington colliery, two miles from Kilmarnock, near Glasgow. The history of this engine is uneventful. It was set up at Caprington in 1806, and has been used almost continuously ever since, at the same place, practically without any renewals or alterations. Some time ago it was proposed to remove it, but as it was found still serviceable, giving little trouble and capable of useful work on an emergency, it was left in position. On one occasion, when the workings in the mine were flooded to a depth of 30 ft., it was set to work, night and day, and pumped out the water in six weeks.

"The engine, with the boiler beneath it, stands in an isolated house, with half of the beam projecting. It is single-acting, single-cylinder, and the piston is drawn down by the vacuum formed below it. The diameter of the cylinder is 30 inches; stroke 5 ft. 3 in.; diameter of the pump, 9 in.; stroke, 5 ft. 3 in., or the same as that of the motor piston, as the beam is of equal length on both sides of the main bearings. The jack-head and service pumps are both 5 7/8 in. in diameter and 2 ft. 7 1/2 in. stroke. The lift of the main pump is 170 ft., and both engine and pump work at twelve strokes per minute. The steam pressure in the boiler is about 1/2 lb. above atmosphere, and the vacuum in the cylinder, from diagrams recently taken, is 8 1/2 lbs. The engine indicates 9.65 horse power, and the pump is 8.32 horse power. The only structural change made in the engine since it was first set up was the substitution, about fifty years ago, of a cast-iron beam with radius bar and parallel motion for the original old wooden beam with 'cradles' at the ends. The engine has, however, worn out several boilers since it was first started. The top of the cylinder is open to prevent the passing of air below the piston, a jet of water from the pump plays constantly above the piston. If too much water accumulates, it is led off through a hole and pipe at a suitable level, to the hot well. The valve gear is of the type usual in these old Newcomen engines with tappet rods worked from the beam, tappet levers and catches; one tappet arrangement is for the injection water, and another for the steam inlet. An indicator cock was fixed on the engine by Mr. Hugh Dunn, the manager, in October, 1897."

EARLY HOT WATER HEATING IN GREENLAND

When we investigate the early history of any invention, unless it is one which has been made possible only by recent discoveries, we are likely to unearth some surprising facts. One would hardly suppose, for example, that the heating of dwellings and churches by hot water originated in Greenland, yet such is the fact, if we may rely on the data given by a recent number of Cassier's Magazine, from which we quote below:

"An interesting example of the antiquity of the system of heating by hot water is cited by Mr. Frederick Tudor in a diminutive treatise on 'Heating for Health, or How to Heat a House,' which he prepared about ten years ago. Mr. Tudor tells that the announcement of the discovery of Greenland by Davis, in 1587, brought to light the fact that the territory had been discovered and colonized by Norwegians, centuries before. The first European to land upon its shores was probably Leif, in the year 984, whose glowing accounts of its attractions led to the founding of a colony a year or two later. This flourished until, in the fourteenth century it contained 100 villages, divided into twelve parishes with one bishop's see. Christianity had been introduced in the twelfth century, and a considerable intercourse was maintained with the mother country, Norway. The transfer of the latter to the crown of Denmark in 1387, its attachment to Sweden dating only from 1814, was the cause, probably, of neglect of the arctic colony, and eventually, intercourse ceased altogether, and the country and its people were forgotten. Doubtless there were occasional winters of great severity, and the inhabitants, languishing under the attacks of disease superadded to their hardships, perished without being able to make known their distressing condition.

"Davis found no trace of any previous occupation of Greenland, nor in later years were the Eskimos able to give any definite information concerning them, although historians have discovered proof that Greenland had once been a flourishing colony, and were unremitting in their efforts to prevail upon the Danish government to make a search for the lost colony. It was not until 1723, however, that an expedition was undertaken with this object. It was in August of that year that Egede, in command of the expedition, and while seeking for traces of the lost colonists, came upon a group of remarkable ruins at a place called Kakortok, in southwest Greenland. This has since been identified as Alba, which is spoken of by the Ancient German author Dithmar Blefken, who tells us that in 1516 he met a Dominican monk in Iceland, who told him about the state of Greenland, and besides, 'several other things about St. Thomas' cloister, particularly that there was a fountain of hot water which was conveyed by pipes into all their apartments, so that not only their sitting rooms but also their sleeping chambers were warmed by it, and that in the same water meat might be boiled as soon as in a pot over the fire.' This is also vouched for by Cæsar Longinus, in his 'Extracts of All Journeys and Voyages.' These old ruins, the earliest traces of Europeans in the Western hemisphere, were revisited as recently as 1888 by the artist Bradford, who also found the hot water spring, which is of volcanic origin. This Mr. Tudor considers to be the first authentic example of the use of hot water for warming dwellings, though it was probably only a clever adaptation by the builders of the monastery of a method of conveying heat which must have been previously known to them. Mr. Tudor himself says that it is not improbable that the men who could build those magnificent cathedrals without mortgages were both able to appreciate the merits of hot-water heating and to make efficient use of it by the aid of appropriate apparatus. As to the utilization, as described above, of the natural hot-water springs, it is not uninteresting to add here that piping such waters to houses has been practiced in more than one instance in recent years. In one old German town there is an installation of this kind going back beyond memory or record."

LAUNCH OF THE KROONLAND.

The Kroonland, the third of the quartet of the new twin screw steamers which the International Navigation Co. has built for the New York-Antwerp service of the Red Star Line, and which was launched at the yards of the William Cramp & Sons' Ship and Engine Building Company, in Philadelphia, last Thursday, is the largest ship ever built in the United States and is a sister vessel of the Vaderland, which was launched, July 12, 1900, at the yards of John Brown & Co., Limited, of Clydebank, Glasgow, and the Zealand, which was launched at the same yards November 4, 1900.

The Kroonland is 580 feet long, which is twenty-six feet longer than the St. Louis and St. Paul, and has a register of 12,000 tons, or 400 tons more than the St. Louis and St. Paul. She possesses every device for the safety and comfort of passengers and carries the latest improved appliances for the protection of life. Except in the one point of speed, the Kroonland is the equal of the finest steamships afloat and will enable persons of moderate means to enjoy all the luxuries of the fastest ocean greyhounds.

Passengers are to be carried on three decks, the promenade, the upper and the saloon deck, and among the numerous distinct advantages offered is the location in the mid-ship of all first and second cabin saloon and state rooms. There are berths for 343 first-class passengers, 194 second class and about 1,000 third class.

THE METEOR LAUNCHED.

In a drizzling rain and in the presence of a brilliant assemblage, amidst the cheering and the roar of cannon, the German Emperor's new schooner yacht, Meteor, was launched from Shooter's Island on Tuesday. Unlike the weather, the arrangements were perfect, and no untoward incident marred the occasion. The President, Mrs. and Miss Roosevelt, Prince Henry and the distinguished party accompanying them were enthusiastically cheered on ar-



CAPT. L. S. SULLIVAN, TOLEDO.

President and General Manager of the Independent Tug Co. Tugs stationed at Toledo, American Eagle, L. Birkhead, Fanny L. Baker, Uncle Sam and Wm. E. Rooney.



CAPT. LOUIS F. LAUTENSLAGER, BUFFALO

Manager, Independent Tug Co. Tugs stationed at Buffalo, Butler, Delta and Pallister, with others to be added to the Buffalo fleet when business warrants.

iving at the platform built just at the bow of the Meteor. Without delay, after greetings had been exchanged Miss Roosevelt stepped forward and taking hold of a silver covered bottle containing German champagne, broke it on the side of the vessel. Immediately she seized a silver axe and severed the rope which released the weights holding the Meteor. The vessel went gracefully into the water with the American flag breaking out at the taffrail. American and German national airs were played and from the scores of craft containing excursionists came enthusiastic cheering.

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WAS IT THE MAYFLOWER?

It has come at last. We have been expecting it for several years, scarcely daring to breathe our suspicions above a whisper for fear of the charge of blasphemy; and yet we have felt that it was only a question of time before the iconoclast should raise the question: Did the Pilgrims come to this country in the Mayflower?

A correspondent of the Boston Transcript—of all papers!—is of the opinion that there is no proof extant that gives the makers of history the right to state that the Pilgrim Fathers reached these shores on the Mayflower, and he says this boldly, too, in face of the fact that every family in New England boasts of an ancestor who purchased a ticket for the first voyage of the Mayflower, and that every home in New England rejoices in a set of bed-room furniture that was brought over on the good ship, which must have had a freight capacity greater than that of a dozen Great Easterns. A little volume entitled "Mayflower Essays," written by the Rev. G. C. Blaxland, at one time domestic chaplain to the bishop of London, and as such custodian for some years of the original Bradford manuscripts, contains a brief note to the effect that in no place in his narrative does Governor Bradford record the name of the vessel in which the first party of Plymouth colonists made their voyage. In all the Bradford manuscripts, detailed as they are in other particulars, the two vessels of the expedition are referred to as the "smaller ship" and the "bigger ship," but nowhere is the name of either given. In one place only does Governor Bradford record the name of the ship Mayflower, and this is not in allusion to the vessel in which the Pilgrims made their voyage. It appears in a letter from a Mr. Shirley to Governor Bradford, which the latter inserts in his narrative, and refers to a vessel that conveyed a party of Massachusetts colonists in the year 1629, nine years after the initial voyage. The omission of the names of the two vessels in which the voyagers first set sail, according to the Transcript's correspondent, and especially of that in which the voyage was actually made, is the more remarkable from the fact that elsewhere in his narrative, Governor Bradford is careful to record the names of vessels employed by the colonists. We read of the Anne, the Paragon, the Charity, the Fortune, the James, the Sparrow; but except in the instance already cited, the name of the Mayflower nowhere appears in the narrative. Nor does it appear in the narratives of Bradford's contemporaries.

The first mention of the Mayflower in history is in Nathaniel Morton's "New England Memorial," which was published in 1669, when its author was 53 years old. The writer was the son of George Morton, who came over to Massachusetts in 1623. His oldest son Nathaniel was 7 years old at the time. In the dedication of his work to the "Right Worshipful Thomas, Prince, Esq., governor of the jurisdiction of New Plymouth," he confesses that the greatest part of his intelligence has been borrowed from his much honored uncle, William Bradford, and such manuscripts as he left in his study. There is, however, this variation: Whereas Governor Bradford says, "a small ship of some sixty tons was bought and fitted in Holland," Morton has interpolated the words, "called the Speedwell," and in a few words further on in making a record of the larger vessel hired in London, he here also follows the governor's phraseology, but interpolates the words, "called the Mayflower."

This, then is the first mention in any historical record of the name of the vessel in which the Pilgrims made their first voyage, and this is made nearly fifty years later than the date of the voyage, and by a person whose information concerning the initial trip must have been second hand. That there was a ship called the Mayflower, engaged in the New England emigrant service is known beyond peradventure. Bradford mentions her as bringing the colonists of 1629, but he says nothing about the name of the ship that brought the first colonists. Morton gives the names of the ships that started out on the first voyage as the Speedwell and the Mayflower, but he does not men-

tion the Mayflower's voyage of 1629. Thomas Prince, in his "chronological History of New England," makes mention of a ship Mayflower engaged in the New England emigrant service. He quotes the letter of Shirley to Bradford, recorded by the latter and likewise records the arrival at Charlestown in 1630 of a fleet of ships of which the Mayflower was one. But in all these records there is no hint that this vessel was identical with that which brought the first party from Southampton. Governor Winthrop makes a similar record. Therefore the iconoclast of the Transcript would raise the questions:

"Why are Bradford and Winslow silent concerning the name of the vessel in which the colonists sailed?"

"If the Mayflower of 1620 and 1630 was the ship which brought over the original colonists, would it not have been natural for Bradford to have stated that fact in his mention of that vessel?"

"Might not Morton, writing in 1669, easily have forgotten the name of the ship—if he had ever heard it—or might he not have easily confounded it with the vessel which brought the party of 1669?"

"Is the testimony of later writers, who received their information from Morton, more reliable than that of Morton himself?"

"If the Mayflower of 1629 and 1630 was the Pilgrim ship, is it not remarkable that neither Bradford, nor Winslow, nor Morton, nor Mather, nor Winthrop, nor Prince mentions such an interesting fact?"

"Is there, then, any direct evidence that the Mayflower was the ship in which the Pilgrims came to New England?"

These questions are, obviously, unanswerable in the light of such evidence that we have at command, but at least they serve no more useful purpose than hairs to be split by quibbling historians. It will take more than the ingenious arguments of an iconoclast to destroy our belief in the good ship Mayflower, and in all probability future generations will go on believing as we do. There is more than a sentimental side to the subject, however; if it should be decided by documentary evidence of repute that the Pilgrim Fathers came to America on another ship, New England's chief industry, the making of Mayflower furniture, would go into the hands of a receiver.—Rochester Post-Express.

THE report on the Pacific cable urges government construction and ownership, and cites the fact that England for 50 years has been constantly acquiring by purchase and construction, cable communication with her vast possessions, until she has expended upwards of a hundred million dollars for this purpose, and operates her own cables connecting her colonies. England is now constructing a Pacific cable from Vancouver to Australia at a cost of nearly nine million dollars, and in order to give her traders and manufacturers the benefit of this communication at the least possible expense, has fixed a rate of two shillings, or 50 cents per word cable messages from Vancouver and New Zealand. France, Germany and other nations are not sleeping upon their rights, as the people of the United States have been," comments Mr. Corliss, "but are establishing government telegraph communication with their respective possessions."

OWING to the success which has attended the construction of the turbine passenger steamer "King Edward" upon the Clyde, another similar vessel is to be constructed. She is to be an improvement on the "King Edward" in every respect. She will exceed the dimensions of the latter vessel by 20 feet in length, 2 feet in beam and 1 foot in draft. Her speed will be 22 knots—25 miles. She will be placed upon the Clyde for traffic between Campbelltown via Fairlie and Glasgow, and is to be completed in time for the pleasure traffic season for next year. Messrs. Denny Brothers, of Dumbarton, who built the "King Edward," will also construct the new turbine steamer.

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We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

CANAL VIEWS.

The twenty-five representative business men in Toledo who recently decided that the abandonment of the Miami and Erie canal would be detrimental to the best interests of that city were right. Not only would it be inimical to Toledo and the peerless country through which it passes, but all the extensive and producing country tributary to the Great Lakes. Hon. C. P. Griffin referred to the expectation that a ship canal would follow the Miami and Erie route and that the government would soon be forced to act upon the idea. He said the canal was a paying institution. C. K. Hague and Mayor Jones both opposed the abandoning the canal and referred to a syndicate that desired to possess the land now covered by the St. Mary's reservoir. Deepening the canal ten feet would give the 70,000,000 tonnage of the Great Lakes access to tidewater and also allow the 15,000,000 tonnage of the Ohio river and tributaries to load their cargoes on the docks of any of the ports of the Great Lakes. The splendid ships built at Toledo and other shipyards on the Great Lakes for ocean commerce now have to go through a foreign country to reach tidewater. For the wealthiest nation on the globe the situation is not creditable.

The above from the Wauseon, O., Republican indicates that some of the business men of the lake ports are awakening. One quarter of the money it is proposed to expend on the Isthmus canal would provide a deep water way from the lakes to the Gulf of Mexico, and be infinitely more beneficial than all the Isthmus canals. The country from the head of Lake Erie to the gulf is the richest and most resourceful on the globe.—Jeffersonian.

LATEST MARINE PATENTS.

- 692,815. Mouthpiece for suction dredges. Lindon W. Bates, Chicago Ill.
- 692,845. Ball bearing row lock. Thomas H. Garrett, Jr., Auburn, N. Y.
- 692,910. Propeller for vessels. Detlef H. Rohwedder, Chicago Ill.
- 692,973. Hydraulic dredge. Lindon W. Bates, Chicago, Ill.
- 693,097. Barrel tongs. Chester M. Baldwin, Bronson Mich., assignor of one-half to James H. Shaw, same place.
- 693,228. Boat adapted to be propelled on land or in the water. Samueu T. Brittain, Boston Mass.
- 693,235. Piling. Amasa B. Clark, New York, N. Y.
- 693,242. Apparatus for cleaning bottoms of ships. Robert S. Culpepper, Houston Tex., assignor of two-thirds to Abnus B. Kerr and Ira M. Bryce, same place.
- 693,272. Automatic driving mechanism for submarine boats. John P. Holland, Newark, N. J.
- 693,369. Wave motor. William S. Bryant, Cohasset, Mass.
- 693,600. Steam pile driver. Johannes Grapengeter, Hamburg, Germany.
- 693,615. Swimming appliance. Ferdinand Minkus, New York, N. Y.

Seamen—Incompetency—Right of Master to Discharge.—The fact that a mariner is found after a trial not to be competent to perform the services for which he engaged, in a satisfactory manner, will not justify the master in discharging him in a distant port, before the expiration of his term of service, but he may be put to a different service and a proper deduction be made from his wages. Capillo vs. Bristol Packing Co., 112 Fed. Rep. (U. S.) 439.

TRANSFER OF VESSEL PROPERTY.

Sales of vessel property have been more numerous this winter than for several winters past. The prices obtained for the ships transferred are said to be fully up to what was paid last winter, although not as high as during the boom of the winter before. The principal demand has been for lumber carriers, and several old-time steamers whose usefulness in general trade was over on account of the great increase in the size of modern carriers, will be converted for the lumber trade. One of these was the steamer A. Folsom, which was sold by William Mitchell, of Bay City to the Hines Lumber Co., of Chicago, for \$30,000. The Folsom is at Manitowoc, and it is thought she will be cut down for the lumber trade at that point. Capt. J. A. Calbick has purchased the lumber barge Connelly Bros., and that boat will be towed behind one of his steamers next season. In the sale of the steel schooners Tyrone and Antrim to J. C. Gilchrist, of Cleveland, the project of taking the Tyrone to the Gulf of Mexico for the oil trade came to an end. The prospective purchasers went so far as to have the schooner measured for that traffic. Both boats will now remain on the lakes and be towed by some of the older Gilchrist boats. The sellers were Drake & Maytham, of Buffalo.

At the rate the Detroit vesselowners are disposing of their property, they will not cut much figure in the lake carrying trade at the close of another season. The Merida and Marshall Transportation Cos., which formerly controlled the vessels of the Whitney estate and which were sold to J. C. Gilchrist last summer for \$705,000, have passed out of existence, and a like fate awaits a number of the companies controlled by the A. A. & B. W. Parker interests in the near future. As soon as outstanding affairs are settled the Pridgeon Transit Co., Parker Transportation Co., State Transit Co., Buffalo and Duluth Transportation Co., and the Swain Wrecking Co. will be things of the past, the boats owned by them having been disposed of to other interests.

Out of a fleet a year ago consisting of six steamers and two barges, all that remains today controlled by the Parker interests is the steamer John Oades, owned by the Peninsular Transit Co. All the rest have been disposed of at different times during the last year. The latest sale is the John Pridgeon Jr., which was last Saturday transferred to John J. Boland and others of Buffalo. This leaves nothing in the way of freighters now owned by the Parkers except the Oades, and in all probability she will be sold before the opening of navigation.

While getting out of the freight-carrying end of the business they have been steadily increasing their passenger facilities, and their passenger line—the White Star line—is now one of the finest on the lakes and for an exclusive day excursion line cannot be surpassed anywhere in the country. With the coming out of the new Greyhound next spring the line will consist of the Tashmoo, Idlewild, City of Toledo, and the new steamer, together with the Arundell for early season work when the ice is too heavy for the sidewheelers.

BUILDING LARGE SCHOONERS.

The launching of a five-masted schooner at Mystic, Conn., last Tuesday, calls to mind the increasing proportions of our American fleet of powerful fore-and-afters. A few years ago, when the Governor Ames, the first five-master, was built, she was regarded as a wonder. Now there are so many afloat that the marine world has expanded its ambitions and is talking of six and seven masted vessels. For the present, however, says the Providence Journal, five-masters appear to be the favorites and it will not take long before another schooner of this class is launched at South Boston. Five masters have proved easy to handle and convenient for the uses to which they have been put. They have been employed chiefly in the coastwise trade, though the Ames made a memorable voyage around the world. If the Nicaragua or Panama canal is constructed, it will be a great boom to these big schooners.

The shipbuilding industry is flourishing in the United States. Shipyards have more orders than they can fill and

expect to be rushed for months to come. Near the shipyard where the five-master was launched on Tuesday, is the busy plant at Groton, where two immense steel cargo boats are almost ready to be put into the water. Rumors of other large steamers, to be built of the same works, are spread abroad. At Noank, within sight of the Mystic yard, work is brisk all the year. The fact is that the American shipbuilding business is in excellent condition.

It is unreasonable to say that schooners will never much exceed their present measurements. The limit has been put on steamship dimensions by confident prophets only to be enlarged by them or their successors time and time again. We have now equalled the Great Eastern with the Oceanic and Celtic and the tendency is toward a further increase. In wooden shipbuilding we may yet see seven and eight masted vessels, though there are experts who will pooh-pooh such development. In these days of industrial enterprise the wisest man is not too sure about the future. Our locomotives of today make the locomotives of a few years ago seem like pygmies. The trains they draw would have required three or four engines in the seventies. The modern trolley car is twice the length of the antiquated horse-car and the "sky-scraper" of 1890 has been dwarfed by the thirty story buildings of 1902.

The launching of a great vessel is one of the most picturesque sights that modern industry affords. With floating flags, the craft lies motionless on the ways, her huge bulk towering thirty of forty feet above the ground. The workmen knock away the wedges on the docks, the builder watches with trepidation for the first movement of the keel, the crowd on deck and on shore anxiously wait the success or failure of the event. Suddenly there is movement in the great structure. It slips at an increasing pace down the slippery incline. As the stern touches the water the whole ship dips gracefully to the tide, the anchors are flung out with vigorous puffing from the donkey engine, the whistles of tugs and factories fill the air, and the great vessel glides quietly to her anchorage in the stream. It is not surprising that the launching of a big schooner attracts a big crowd.

WHY THE CHINESE CONTINUE TO BUILD JUNKS.

Being so well able to build vessels of foreign type suggests the query why the Chinese should continue to build junks? Here, again, is another example of official restrictions cramping natural enterprise.

The shipping cleared out of Hong Kong in 1899 amounted to 27,975 vessels, of which 22,501 were junks; the tonnage was, respectively, 8,563,127 and 1,846,749, the foreign built vessels averaging 1,226 tons each, and the junks 85½ tons. Now, foreign built vessels can trade only to the "open" ports, but there are numberless other centers of trade in China to which junks can ply. These pay customs dues, assessed by the local Hoppo, and varying with his degree of rapacity and the astuteness of the skipper or shipowner. But the dues are invariably higher for vessels of foreign type. Customs passes may be obtained at the port of departure, and are recognized by the officials of the Imperial Maritime Customs, who have no power to levy duties on cargo carried in native bottoms. Linkin, another form of extortion somewhat resembling the cotroi in

France, can be negotiated only by experienced native captains in native craft; other vessels may have transit passes, and everything in perfect order, but, somehow, they always meet with obstacles and reverses enough to dishearten the most persevering.

When clearing at the Hong Kong Harbor Office, a junk pays a fee and receives a paper on which are stated the nature of the cargo and the alleged destination, and a recommendation to the crew to succour any distressed seamen they may meet, and to carry no stinkpots. There are no load line regulations, the number of passengers and crew is immaterial, the food question the business of the master, no side lights—it costs oil to burn them—no vexatious rules and regulations whatever, and this the Chinaman dearly loves, for then he can economize to his heart's content.

On the rivers, steamboats are permitted to stop only at certain stations, yet passengers will travel twenty miles in a direction opposite to their route in order to catch a steamer, in preference to trusting themselves and their belongings to a native craft. Were all disabilities removed, we should see the picturesque, but antiquated junk disappear.

Above Canton there are numbers of stern-wheelers, the wheels being turned by coolies working on the treadmills. Wooden chimneys were originally fitted to them, but the traveling peasantry were not to be deceived into thinking that they were steamers, so they were discarded. It is amusing to watch a race between these boats, the coolies, fifteen to twenty to a wheel, bobbing up and down, yelling like demons. Until last year the only type of sternwheeler on this river was that propelled by muscular force; but several shallow draft screw boats have recently been introduced and accustomed the natives to the use of steam.

For several years the river has been nominally open to foreign trade, but the native authorities succeeded so well in hampering new innovations that it is only recently that any kind of steam vessel managed to pay its way.—W. G. Winterburn, in Cassier's Magazine for March.

JULIUS Kruttschnitt, assistant to President E. H. Harriman, of the Southern Pacific railroad, said that the directors have determined to build a bridge across Salt Lake, in fulfillment of a plan of the late Collis P. Huntington, formed ten years ago. The so-called bridge will be a viaduct 23 miles long, built of Utah pine, steel and masonry, across the northern part of the Great Salt Lake, where the water is mostly shallow. Timber piles will be driven in the shallow water and the piers will be built in deep water. Mr. Huntington ascertained, after experiment, that the waters of Salt Lake had a preservative effect on Utah pine, and that timbers sunk in that lake would retain their soundness and strength indefinitely. The proposed bridge, or viaduct, will shorten the Southern Pacific line from Ogden to San Francisco by 45 miles, besides cutting out a steep and devious mountain climb. The cost of the improvement will be about \$2,500,000.

WINTER MOORINGS.

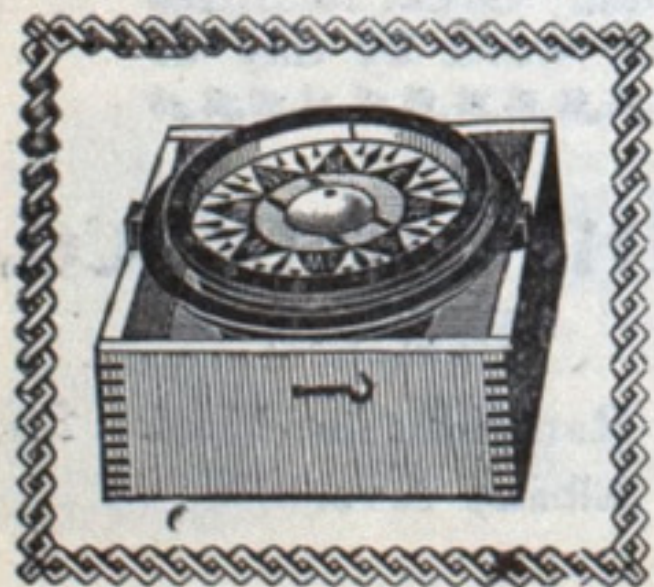
A 32-page booklet showing where about 2,000 vessels are laid up for the winter. It gives steamers, schooners and barges and a list of tugs as well as a list of the vessels which were lost last season and is quite reliable, being taken from correspondence at the various lake ports. Copies sent by mail prepaid on receipt of 25c. The MARINE RECORD Publishing Co., Western Reserve Bldg., Cleveland, Ohio.



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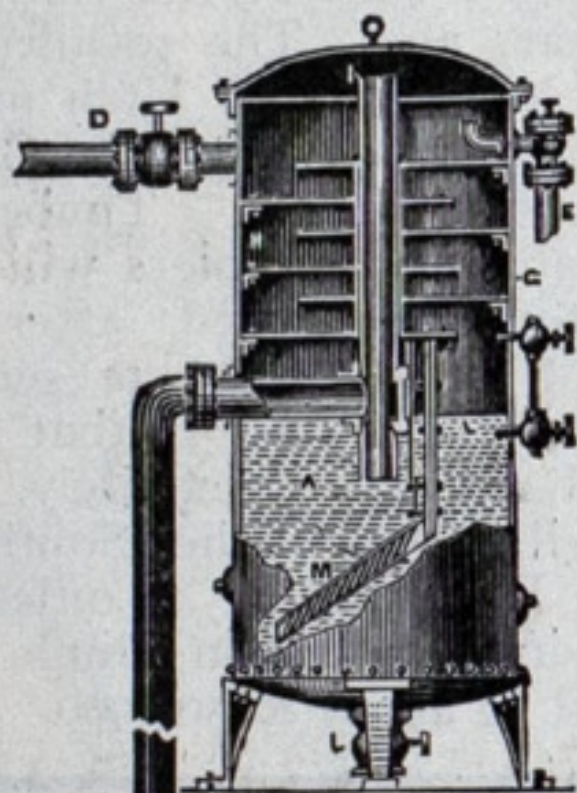
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Minnesota Iron Co.'s steamer Presque Isle.
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McDougall.

Lake Michigan & Lake Superior Trans-
portation Co.'s steamer Manitou.

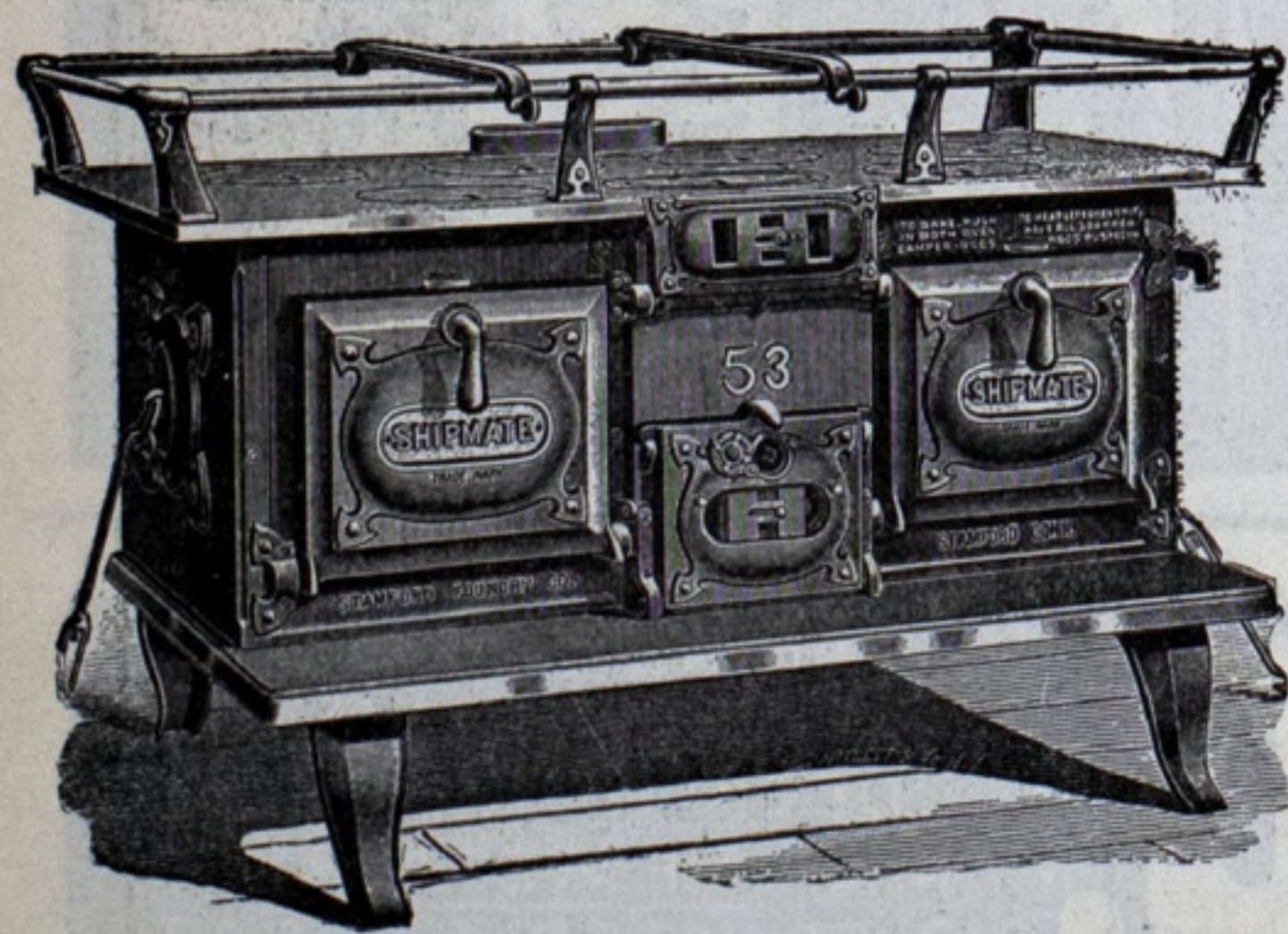
Bessemer Steamship Co.'s steamers S. F.
B. Morse and Douglas Houghton.

American Transportation Co.'s steamers
John Harper and Alex. Nimick.

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Wilson Transit Line's steamers W. D. Rees
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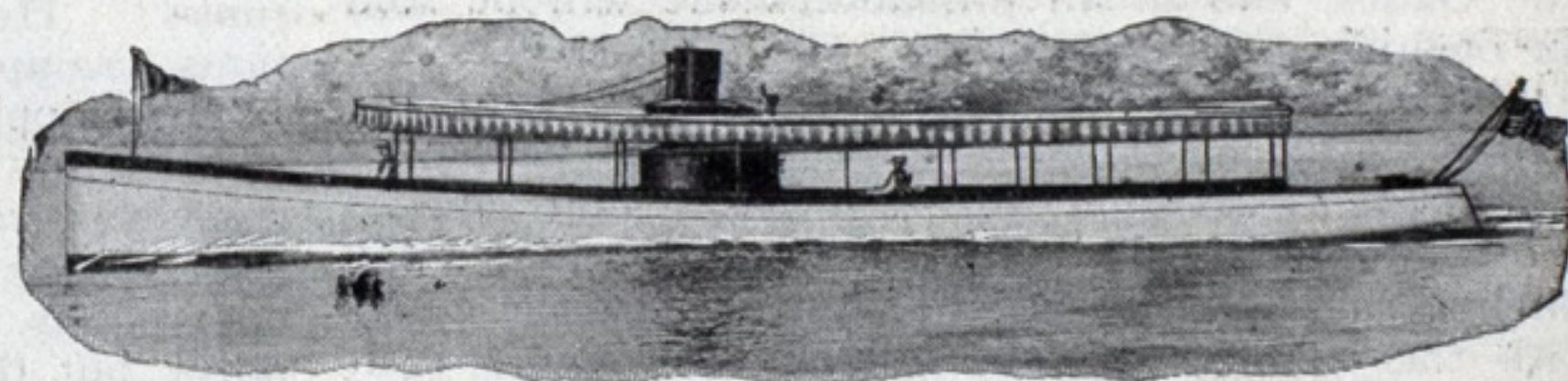
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FLOTSAM, JETSAM AND LAGAN.

Frank Steimle, who has operated a ferry on the St. Joseph river for the past 30 years, died last week at the age of 60 years, at Royalston, Mich.

The Standard Automatic Releasing Hook Co., New York, has received an order for a set of patent automatic boat disengaging hooks to be delivered to the German Embassy, Washington, D. C.

A proposition submitted by Representative Southard, of Toledo, O., for the erection of a naval training station on the shores of Lake Erie, is a move in the right direction, and it is to be hoped that the present Congress will carry out this proposition without delay. A lake training station will fill a long expressed want and insure the proper protection in time of war required for our extensive fresh water coasts. Mr. Southard proposes to locate the station at or near Toledo. There is also a movement to have it erected near Erie, Pa.

It is remarkable that an ice boat under certain conditions can sail faster than the wind. It does not sail directly before the wind, like a balloon, which consequently can never sail faster than the wind, but it sails at an angle to the wind's direction and gathers increased speed with every thrust of wind against its sails. There is so little friction that having gained a certain speed, a forward impetus received from the wind does not go to maintain that speed, but to add to it. Thus it comes about that ice yachts actually overhaul the wind, so that their canvas appears as if driving into its face.

It is positively known that several of the Portage Lake range light stations will be changed this winter. The government engineers have received advices from the light-house officials of this district to that effect, but have not been apprised in detail of what the changes will be. It is known, that an assistant will be appointed for the canal light keeper. Two five-day lights will be provided to be placed on the end of both of the new piers. It will be necessary, with the improvement works, to provide one or more range lights both at the canal and the entry, but the locations of these stations has not been decided upon.

Much activity is displayed at the shipyards of Henry Burger, jr., where two small craft are in the stocks to be finished at an early date. One of the boats is a steam pleasure yacht being built for Vernon Seaver, of Chicago, 80 feet in length, with a fifty foot cabin to be finished in the interior in mahogany. This boat is to be ready for commission June 1st. The other is an 80 foot steam passenger boat for service on the Illinois river. This craft, which is to be owned by Capt. William York, will be sent April 1st to Peoria, via the Chicago drainage canal.

The purchase of the hull of the burned steamer Hennepin by David Vance & Co., of Milwaukee, for \$18,000 means the rebuilding of the steamer for use in the stone trade by the Lake Shore Stone Co., of Milwaukee. This company is one in which Capt. E. G. Crosby and others are largely interested, and has on hand many government pier and breakwater contracts. The Hennepin will be fitted with bins and automatic conveying machinery so that she can be used to carry crushed stone and will be able to unload 500 tons an hour. Her capacity will be 1,400 tons. The company has extensive quarries at Port Washington and is building piers which will enable larger boats than have ever before been utilized in stone carrying to engage in the traffic.

The work of putting up the three large steel towers for the coal unloading and hoisting plant for the Quincy Mining Co., at Mason, on Torch Lake, will be commenced soon. Last October the contract was awarded to the American Bridge Co. and the John A. Mead Co. for these towers. The plant consists of three towers, each having a guaranteed unloading capacity of 35 tons per hour, and a steel shed to be 300 feet long by 300 feet in width and with a storage capacity of 70,000 tons. The Quincy company has made other improvements which will facilitate the handling of coal. The Quincy Torch Lake road has been extended about a mile to the new coal dock, where the rails will be laid on the dock and the coal can be unloaded direct from the boats into the cars and hauled direct to the mine and mill boiler plants. The new dock is about finished. This dock is 400 feet long. The company has added 32 new cars and a locomotive to its rolling stock, and is now thoroughly equipped.

PITTSBURG STEAMSHIP CO'S APPOINTMENT.

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110.....	William Wilson.
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132.....	H. P. Foote.
133.....	Donald Graham.
134.....	Robert Thompson.
137.....	C. H. Noble.
201.....	Wm. Somerville.
202.....	George Maloney.

Israel Tarte, Canadian Minister of Public Works, favors the French river route in a canal from Georgian Bay to North Bay, railroad connection being had from North Bay to Montreal, which would be a distance of only 350 miles. The canal will be about 61 miles long, with three locks, a 20-foot channel, to cost \$1,000,000.

Government Proposals.

U. S. ENGINEER OFFICE, Buffalo, N. Y., February 1, 1902. Sealed proposals for removal of wreck in harbor at Buffalo, N. Y., will be received here until 11 a. m., March 4, 1902, and then opened. Information furnished on application. T. W. Symons, Major Engineers. 6-9

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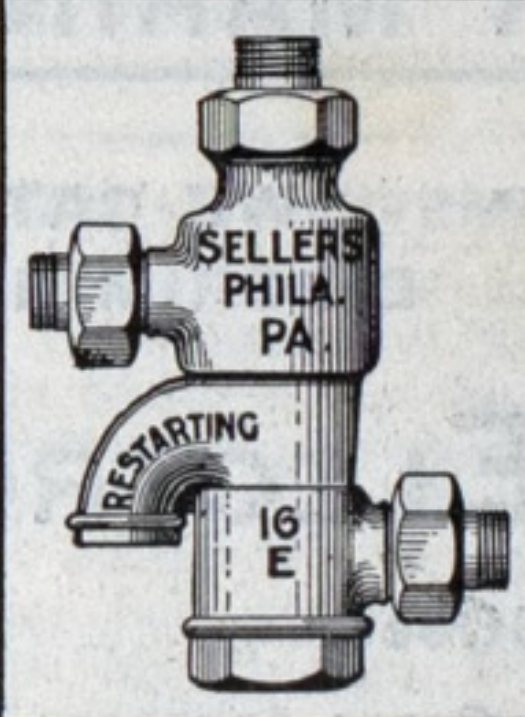
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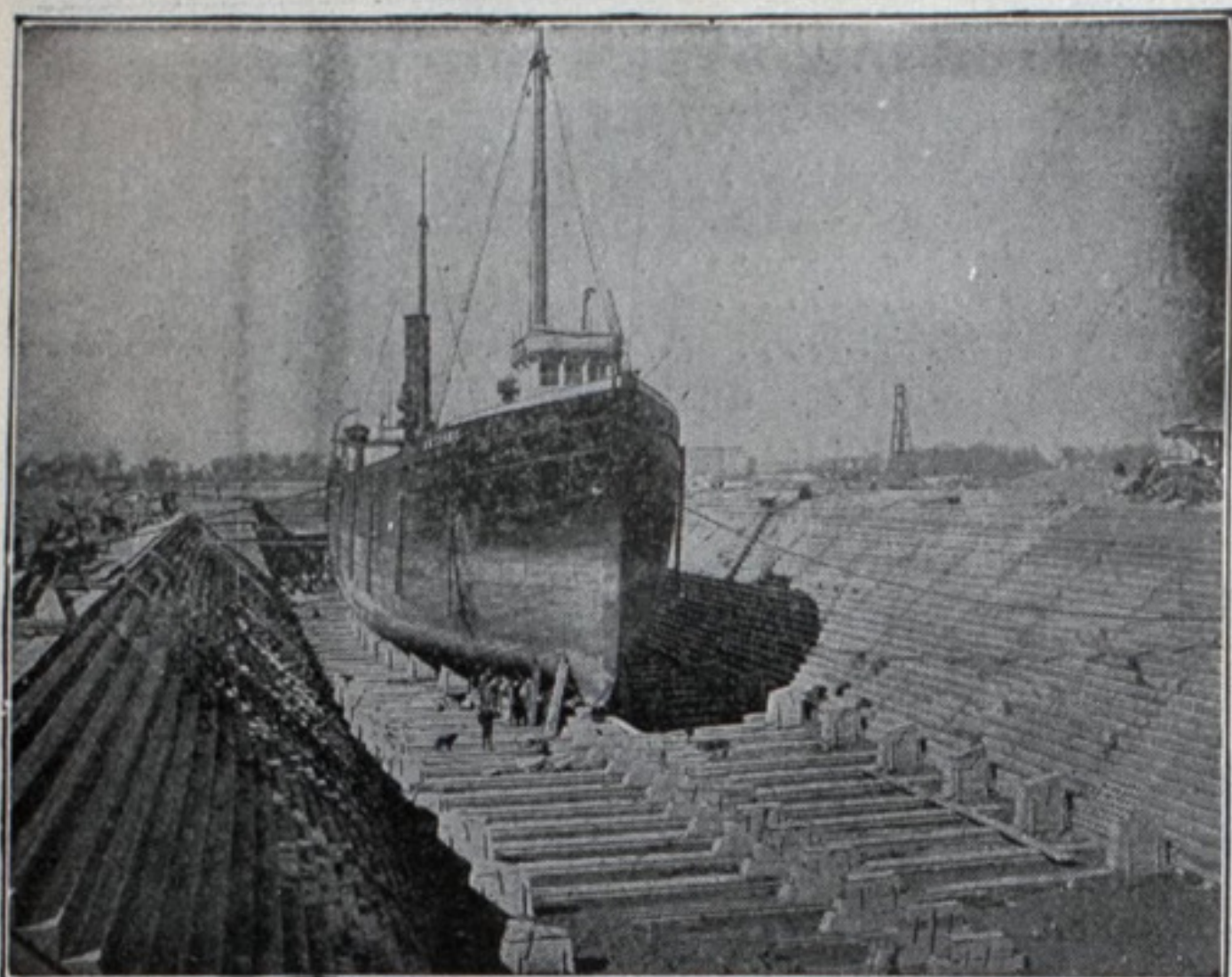
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